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ABSTRACT

The central purpose of this study was to determine to what extent views of participation in adult education would be changed if viewed through the eyes of the learner rather than through the eyes of the educator. The study report is comprised of five chapters. Chapter I contains discussions of pertinent literature, problem identification, purposes and implications of the study, and three behavioral measuring devices. Chapter II discusses procedures employed in accepting and developing the behavioral measuring instruments. Chapter III concerns the selection of study subjects, collection of data, and preparation of the data for computer analysis. Chapter IV, which discusses an analysis of data, is organized around a statement of the hypothesis under construction and a description of the statistical treatment used to either support or reject the hypothesis. Chapter V is devoted to a discussion of study conclusions, implications of findings to the field of adult education, limitations of the study, and suggestions for further research. (DB)

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HE ADULT'S JUDGMENT ABOUT SELECTED LEISURE ACTIVITIES

HEW PROJECT NO. 9-C-048

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CHAPTER I

INTRODUCTION

The measurement of participation in adult education has not been extensively studied, but some beginning of such measures has now occurred. The first efforts in this direction were undertaken by people who were concerned with a particular institution; an evening school director would count people in terms of the number enrolled, or a librarian would count registration in terms of card-holding clients. Later, the system of measuring participation shifted to the individual. Through various investigations ways have been devised to assess how many learning activities (in many different forms) were undertaken by subjects participating in adult education activities.

In both forms of measurement, the discussion of extent of participation has been in terms of activities identified as educational by people who are themselves educators. In no case has any study been made of participation in terms of what the learners themselves regard as educational. The central purpose of this study, therefore, was to determine to what extent views of participation would be changed if viewed through the eyes of the learner, rather than the eyes of the educator.

Background Information

In the emerging field of adult education, the act of participation has been appraised principally from two points of view: "how many" adults participate in an activity, a program, or an institution's programs and the "extent" to which the individual participates in a variety of learning experiences. Although the former method of appraisal is the older method it is still widely used today.[1]

The literature is somewhat vague as to exactly when the act of adult education participation in this country became a matter of concern. But as the adult education movement gained momentum after World War I and many institutions became involved in the education of adults, the number of adult participants became of concern to administrators, employers, governmental agencies, teachers, and others; and this concern was the focus of considerable research.

In 1924, Morse A. Cartwright, Director of the American Association for Adult Education, estimated the size of the adult education student body to be around 15 million. His estimate in 1934 was approximately 22 million.[2] In 1950, Paul L. Essert, Executive Officer of the Institute of Adult Education at Teachers College, Columbia University, estimated the adult student body to be around 29 million.[3] In 1955, Malcolm S. Knowles, then Executive Director of the Adult Education Association of the U.S.A., estimated the number of adult participations to be around 50 million. Knowles summaried and compared these estimates in Table I.[4]

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[1] This is not intended to imply that this method of measuring participation is antiquated, for it is not. For example, in preparing the VPI&SU Extension Division Budget, the investigator has the responsibility for estimating the number of different adults and youth involved in Extension programs during the current fiscal year. There are, however, some indications that this method of measuring participation might eventually evolve into a teacher-pupil ratio of measuring.

[2] Morse A. Cartwright, Ten Years of Adult Education (New York: the Macmillian Co., 1935), p. 60.

[3] Paul L. Essert, Creative Leadership in Adult Education (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1959), p. 37.

[4] Malcolm S. Knowles, The Adult Education Movement in the United States (New York: Holt, Rinehart, and Winston, Inc., 1962), p. 251. A 6.6% error is observed between the total for 1924 and the sum of the different types of programs.

TABLE 1

ESTIMATED PARTICIPATION IN ADULT EDUCATION, 1924-1925

Type of Program	Enrollment (in thousands) 1924	1934	1950	1955
Agricultural Extension	5,000	6,000	7,000	8,684
Public Schools	1,000	1,500	3,000	3,500
Colleges and Universities	200	300	500	1,500
Private Correspondence Schools	2,000	1,000	1,000	1,000
Educational Radio & Television	500	5,000	6,000	5,000[e]
Libraries	1,200	1,000	1,500	1,961
Men's and Women's Clubs	1,000	1,000	——[d]	1,525
Parent-Teacher Associations	15	60	——[d]	350
Religious Institutions	150	200	——[d]	15,500[f]
Business and Industry	100	60	——[d]	750
Labor Unions	13	15	——[d]	850
Armed Forces	[a]	[a]	250	388
Health and Welfare Agencies	——[b]	——[b]	[b]	6,500
Others[c]	4,681	6,156	10,000	2,000
TOTAL[g]	14,881	22,311	29,250	49,508

[a] Not in operation in 1924 and 1934.

[b] This item included under "Others" by Cartwright and Essert.

[c] Includes: Alumni Education, Community organization, Negro education, Prison education, Recreation, Settlements, Special schools, Theaters, Vocational Rehabiliation, and Museums.

[d] Essert included these items in "Others".

[e] This decline does not reflect fewer listeners, but limitations of the later figure to formal enrollment in "telecourses".

[f] Adult Sunday School clases are included. This drastic increase is caused by growth of adult educational activities in churches and synagogues and by improved reporting procedures.

In presenting the preceding comparisons, Knowles stated: "The actual size of adult education's study body at various points of time cannot be accurately verified, owing to the lack of systematic methods of reporting participants,..."[1] Others have likewise been concerned with the size of the national adult student body. In 1959, Winn and Woodward estimated total adult participants to be around 9 million.[2] In 1964, Johnstone and Rivera concluded that approximately "25 million American adults, more than one person in five, had been active in one or another form of learning during the twelve month period just prior to June, 1962."[3] Also, that "as a very rough approximation, then we conclude that as many as seven adults in 10 have interests that could conceivably lead them into some type of learning situation, but that less than one-half of the population could be seriously regarded as potential adult education participants."[4]

In total, Johnstone and Rivera estimated adult education participants to be 17,169,000 during the year ending June, 1962.[5] These estimates on number of participants have been useful for purposes of planning adult education activities, for preparing budgets, securing staff, preparing teaching material, developing curriculums, providing the teaching environment, and so on. The individual participant has had his impact on the

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[1] Ibid., p. 250.

[2] Marie D. Winn and Marthine W. Woodward, Participation in Adult Education (U.S. Office of Education Circular No. 539, Washington: U.S. Government Printing Office, 1959), p. 33.

[3] John W. C. Johnstone and Ramon J. Rivera, Volunteers for Learning (Chicago: The Aldine Publishing Co., 1965), p. 1.(Hereafter referred to as Volunteers).

[4] Ibid., p. 1.

[5] Ibid., p. 33.

the adult education movement, even if the method of measuring has been but a count of persons.

Another method of measuring participation incorporates the extent to which the adult learner utilizes a variety of activities to satisfy his educational desires. This approach to measuring participation is traceable through empirical studies to the Inquiring Mind. In that work Houle proposes that continuing learners and their educative activities might be "fitted together into patterns that would throw light on the meaning of continuing education."[1] He operationalized the concept by observing the "act of participation" from the perspective of the individual. The individual concept has, in turn, provided direction to at least two types of participation studies--why adults participate and the investigation for understanding and measuring extent of individual educational participation.[2]

Of the investigations concerned with the measurement of adult educational participation, Sheffield,[3] Brown, Ingham, and Litchfield[4] have developed similar instruments for similar purposes. Litchfield, however, building upon the experiences and recommendations from the three earlier studies, and retaining the "masking"[1] feature from Ingham's study, greatly refined the measuring instrument. Litchfield's instrument, "The Leisure Activity Survey," (LAS) purports to measure the extent of one's educational participation according to (1) the number of educational activities engaged in, (2) the degree to which each activity was thought to be engaged in for educational reasons, and (3) the amount of time spent in each activity during the past twelve months.

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[1] Cyril O. Houle, The Inquiring Mind (Madison: The University of Wisconsin Press, 1961), p. 14.

[2] As to "why" adults participate, both Burgess and Sheffield have designed studies to test the theory that participants in adult education can be grouped according to specific categories of reasons for participation. (Paul Burgess, "The Educational Orientations of Adult Participants in Group Educational Activities," unpublished Ph.D. dissertation, Dept. of Education, The University of Chicago, March, 1971. (Hereafter referred to as "Educational Orientations.") Sherman Sheffield, "The Orientations of Adult Continuing Leaders," unpublished Ph.D. dissertation, Dept. of Education, The University of Chicago, 1963). (Hereafter referred to as "Orientations.")

[3] Sheffield, "Orientations".

[4] Allan Brown, "The Relationship of the Quality of Collegiate Education to the Continuing Education of College Alumni," (unpublished Ph.D. dissertation, Department of Education, The University of Chicago, 1960). Roy Ingham, "The Measurement of Educative Behavior and its Relationship to the Leisure Satisfaction of the College Alumni," (unpublished Ph.D. dissertation, Department of Education, The University of Chicago, 1963). Ann Litchfield, "The Nature and Pattern of Participation in Educational Activities," (unpublished Ph.D. dissertation, Department of Education, The University of Chicago, 1965). (Hereafter referred to as "Nature and Pattern").

In measuring the extent of individual participation, researchers have studied and compared patron characteristics of selected educational institutions and studied differences among adults participating in various types of adult educational programs. These studies have considered the relationship of both demographic and socio-economic characteristics of the adult (e.g., age, sex, social status, occupation, level of education, marital status, place of residence, and so on) with the extent of educational participation. From an analysis of a nationwide sample, Johnstone and Rivera concluded that, of the socio-economic effects on adult educational participation, "the most powerful by far is educational attainment," but occupation and income are important secondary considerations.[2]

From the national NORC Study, a typical adult education participant is described by Johnstone and Rivera as "just as often a woman as a man,...

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[1] The instruments were masked so as to eliminate possible bias toward education. That is, to control for the possible "halo" effect of education, it was deemed advisable to seek responses to a list of leisure activities rather than to a list of educational activities. Consequently, the prejudged educational activities were interspersed with activities judged to be non-educational.

[2] Johnstone and Rivera, Volunteers, p. 103.

typically under forty, has completed high school or more, enjoys an above-average income, works full-time and most often in a white-collar occupation, is married and has children, lives in an urbanized area but more likely in a suburb than a large city, and is found in all parts of the country, but more frequently in the West than in other regions."[1]

In more intensive studies of adult education participation, other researchers have concluded that adults with similar educational levels do not score equally in the desire to learn, nor do they participate in educational activities at the same level.[2]

So far, a brief attempt has been made to put forth some of the empirical findings and methodology derived, in part, from studies relating to measuring adult education participation. Presently, adult educators know something about their clientele -- who they are, where they are likely to be found, their socio-economic status, their religious affiliations, the type of educational institutions they are likely to patronize, some of the "why's" associated with their desire for continuous learning, and so on. These contributions have been made despite the limitations inherent to social science research. Perhaps Johnstone and Rivera recognized one research limitation in studying extent of participation.

> At the one extreme it was tempting to equate educational activities with pursuits carried on in formal institutions of learning, but it was also obvious that this type of formal restriction was exactly what we did not want, since it excluded some of the most typical situations in which adults do encounter such learning experiences as on-the-job training or lessons with private instructions....

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[1] Johnstone and Rivera, Volunteers, p. 8.

[2] Brown, Sheffield, Ingham, Litchfield and Netherton. (James D. Netherton, "The Relationship between Educational Participation and the Innovativeness of County Extension Agents," unpublished Ph.D. dissertation, Dept. of Education, The University of Chicago, 1967). (Hereafter referred to as "Educational Participation.")

> At the other extreme, of course, it was possible to formulate a definition strictly on the basis of the formal characteristics of an activity itself, or in terms of the consequences of an activity for the individual. While this strategy had more intrinsic appeal, the overwhelming problem here was that there was virtually no way to exclude from consideration a host of activities whose consequences would certainly be educational (such as a visit to an aquarium) yet which clearly would fall beyond the range of any reasonable or workable definition of adult education.[1]

This limitation can be applied, with equal validity, to many of the participation studies previously cited, even though each used a common theoretical starting point.[2]

A close examination of the instruments developed to measure the extent of educational participation reveals some similarities and some differences. The similarities include a focus upon the learner, a self-reporting technique, items prejudged by educators to be educational, and the "desire to learn" defined in behavioral terms.

The differences include a varying number of activities in each instrument and variance in item content. Also, what is considered an educational activity in one investigation is sometimes regarded differently in another. Since the activities used to measure the extent of educational participation were determined by specialists with comprehensive backgrounds of educational experiences, and since educators tend to disagree sometimes on the activities which might be considered educational, it is reasonable that participating adults, presumably with less focus on the educative experience per se, who participate in a diversity of activities, will disagree with the educators.

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[1] Johnstone and Rivera, Volunteers, pp. 25-26.

[2] A Definition of Adult Education as advocated by Houle: "The process by which men and women (alone, in groups, or in institutions) seek to improve themselves or their society by increasing their knowledge, skill or sensitiveness; or the process by which individuals, groups, or institutions try to help in these ways" (from a forthcoming book on Adult Education by Cyril O. Houle). Variations in the operational use of this definition are found in respective studies as follows: Brown, p. 36; Ingham, p. 5; Litchfield, p. 22; and Sheffield, p. 6.

If we logically probe the question of "why" there should be a difference, or "why" there is a difference, we arrive at a point which suggests that what is likely to be regarded as educational by one individual might be regarded differently by another. Slightly removed from, but closely related to this notion then is the idea that different learners might reasonably have different ideas about what is education.

In this respect, Peters states that the adult "has a variable conceptual framework which determines the aspects under which he acts."[1] In educational terms, Metcalfe defines one portion of such a conceptual framework as one's view of education[2] thus:

> A view of education is defined as the total cluster of ideas, images, and impressions which an individual has acquired. Together these ideas, images, and the impressions form a unified whole or conceptual construct, which enables the individual to identify education as an entity and to distinguish it from other concepts which he holds.[3]

After addressing the problem of the "failure of many practitioners of informal education [adult educators that Metcalfe studied who were county extension agents] to identify readily with education" and after examining the breadth of educational concepts held by the selected group of extension agents, Metcalfe found, from the experimental factors[1] associated with educational, occupational and family experience, that:

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[1] R. W. Peters, "Education As Initiation," Philosophical Analysis and Education, ed. by R.D. Archaumbault (London: Routledge and Regan Paul, 1965), p. 87.

[2] The phrases "view of education" and "concept of education" are used synonymously in this study.

[3] William M. Metcalfe, "Concepts of Education," (unpublished Ph.D. dissertation, Dept. of Education, The University of Chicago, December, 1965), p. 3.

[4] Ibid., p. 1.

> When the three variables relating to level and recency of formal education were correlated by a multiple regression analysis, it was found that a combination of the two indices, years since last formal course, and the highest degree held, were significantly related to the breadth of educational concept held by respondents.[2,3]

From his findings, Metcalfe concluded that:

> Broad respondents [extension agents who had a broad concept of education] viewed education as primarily resulting in changed human behavior, modifying or continuing the existing social system, and helping the learner weigh alternatives in reaching decisions, whereas narrow respondents [extension agents who had a narrow concept of education] considered education as being concerned with increased factual knowledge, improving information storage, and stimulating interest in a particular field of endeavor.[4]

Others have expressed a concern about the adult's view of education. For example, Miller states that:

> The dilemma of adult education is precisely that when people think about education, their images are taken from their own memories and from the urgent needs to induce the young to take on the responsibilities and burdens of adulthood and the behavior appropriate to that status.[5]

---

[1] Metcalfe's ten factors by the three divisions were: A. Educational Acheivement; (1) level and recency of formal education (2) breadth and liberality of formal education (3) participation in informal education, and (4) success in informal education. B. Occupational Experiences; (5) previous professional experience, and (6) tenure in the Cooperative Extension Service. C. Home and Family Life; (7) residence in an urban environment (8) parents' educational level (9) parents' attitude toward school attendance, and (10) parents' encouragement of informal education.

[2] Metcalfe, "Concepts of Education", p. 75.

[3] Metcalfe's other significant finding was concerned with breadth of educational concept in relationship to occupational tenure. Metcalfe rejected the other eight factors as not being related to one's concept of education at the .05 level of significance.

[4] Metcalfe, "Concepts of Education", pp. 160-161.

[5] Harry L. Miller, Teaching and Learning in Adult Education (New York: The Macmillian Company, Inc., 1964), p. 1 (Hereafter referred to as Teaching and Learning)

Accepting Metcalfe's and Miller's observations as valid and accurate, it follows that the activities in which an adult participates or identifies can be a reflection of his view of education. Perhaps this point is best summarized by Houle, who states:

> No very keen detective work is required to discover that the advancement of his (the adult's) own program provides the central thrust of his conception of adult education. By such comments and the action which follows them, people express their assumptions whether they wish to do so or not even when they are not aware of the values which guide their speech and actions. One can guess at these assumptions and values only by a close observation of what such people say or do not say, as well as what they do or do not do.[1]

Since Metcalfe found a relationship between the level of educational attainment and the breadth (or narrowness) of one's concept of education, and since the level of formal education is a factor which has been found in numerous studies to be highly related to one's extent of educational participation, it is then suggested that one's concept of education is related to the extent to which one engages in educational activities. Furthermore, the direction of that relationship is thought to be this: the broader one's view of education, the more likely he is to utilize activities for educational purposes.

Thus far, considerable discussion has been directed at the individual -- the extent of individual participation in educational activities and the notion that the individual has an educational concept (or view) which, in theory, may be a guiding force toward a continuing education. Since all adults partake of adult education to some extent, and since the individual is the unifying element among the total of his educational activities, then it is reasonable that education is important to the learner. Therefore, the learner's idea about what is education is considered important for at least three reasons: for society, for the individual, and for the field of adult education.

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[1] Cyril O. Houle, forthcoming book on Adult Education, chapter 10, p. 10. (In this respect, researchers have attempted to describe what adults do and do not do educationally; however, what the adult thinks or what he will say about educational activities can only be implied).

As society has formed the adult, so has the adult formed society. In the perpetual cycle, society expects the infant to learn to talk and the child to learn basic mathematics. The young adult is expected to select a mate, he is expected to maintain financial security, educate his children, and reach a peak of maximum influence on social and civic affairs. According to Havighurst, successful achievement of the societal tasks requires the timing of educational effort to that period of life "when the body is ripe, and society requires, and the self is ready to achieve the tasks."[1] The adult, supposedly at the peak of his social and civic influence, is the responsible and competent resource who decides when, where, and how society's effort will be directed and timed toward helping the individual.

The individual's idea about education is thought to be important to him in at least two ways: as an outlet for what is latent within and as an aid to effective adult learning. Kidd summarizes how education is an outlet for the concealed or unobservable personality of the individual in this way:

> The learner opens up himself, he stretches himself, he reaches out, he incorporates new experiences, he relates it [sic] to his previous experiences, he reorganizes this experience, and he expresses or unfolds what is latent within him.[2]

Because adults have different stations in society, because objectives of the many adult educational institutions differ from one another, and because of the lack of research in adult learning, adult educators disagree on how to enhance the learning process.

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[1] Robert J. Havighurst, Developmental Tasks and Education (New York: Longmans, Green and Company, 1960), p. 5.

[2] J. R. Kidd, How Adults Learn (New York: Associated Press, 1959), p. 15.

One idea of adult learning holds that if the adult is in need of additional knowledge, skill, or sensitiveness, it can be obtained from the educators; for educators know the truth and all the adult needs to do in order to be satisfied is to "listen, learn, and do what those who know think should be done."[1]

Another concept of adult learning is based on the sequence of daily activities and the real-life problems which the adult encounters. In this approach, adult learning is regarded as a problem-solving situation, with emphasis on the student going beyond the information provided in approaching a set of data or a learning task. In this setting, the learner is an active partner in the learning process -- he is motivated by the thrills of discovery, and he shares in the excitement that comes from a free and disciplined creative inquiry.[2]

Although both concepts have been used extensively in the educational process, the latter notion seems to be preferred by teachers in adult education. For example, one instructor put it this way:

> In any given seminar, it is far less important to convey the particular body of information that the professor happens to care about than to seek the information that the student cares about... The former will stick for about as long as it takes the student to walk out the door, while the latter could provide grist for a personal re-evaluation of lasting significance. Moreover, if knowledge is made relevant to the student's current interest, it is henceforth viewed as a desirable commodity.[3]

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[1] Paul Bergevin, A Philosophy for Adult Education (New York: the Seaburg Press, 1967), p. 21.

[2] Miller, Teaching and Learning, p. 34.

[3] Martin Duberman, "An Experiment in Education," Daedalus, The Journal of the American Academy of Arts and Sciences, Vol. 97, No. 1, (Winter,) 1968, p. 321.

A history instructor expressed his concern in this manner:

> I, as a reasonably experienced instructor of United States History, feel that it is a positive good for adults to know what is in the preamble to the Constitution of the United States..., but I hope I have learned not to be so naive as to advise my students to that effect.[1]

From these discussions, it would appear that adult learning is accelerated when there is a conscious intent on behalf of the educator to teach and direct what the student intends to learn, for the student is likely to learn what he thinks is important or considers useful for solving some relevant problem.

Aware of the fact that the adult has many responsibilities to society and that society is directed by adult decisions, adult educators have attempted to assist the individual by articulating in various ways the notion that life-long learning is a continuous and necessary process. This direction has been derived from at least two basic ideas. The first basic idea is that

> No matter how effective contemporary schooling may be, it can never fully prepare youth to meet the world as it will be when they are adults.[2]

and the second is

> That the individual is of infinite worth and potentiality, that the most important thing in life is learning, and that a free society is the best because it is the most educative, and that our way of life can only be preserved if we give our systems of education the attention that we do our personal rights and material welfare.[3]

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[1] Jesse Burt, "In Teaching Adults -- Put Over Your Subject," Adult Leadership, Vol. 16, No. 1, (May, 1967), p. 9.

[2] Wilber C. Hallenbeck, "The Function and Place of Adult Education in American Society," Handbook of Adult Education, ed. by Malcolm C. Knowles (Chicago: Adult Education Association of the U.S.A., 1960), p. 30.

[3] Glenn S. Jenson, "Adult Education Associations and Councils," Handbook of Adult Education, ed. by Malcolm S. Knowles (Chicago: Adult Education Association of the U.S.A., 1960) p. 192.

Educators and others agree that the fullest development of the individual is achieved through organized and purposeful learning and that continuous learning is "at least potentially a great and practical social force."[1]

Therefore, as adult educators strive to fulfill a societal role, they must continue to make educative decisions about programs, institutions, methods, finances, needs of the adult, and adult learning. However, to facilitate what the adult desires to learn and to enhance the adult learning process, educators must be knowledgeable about the experiences which satisfy the adult's educational desires.

What This Study is About

In summary, the background information gives rise to at least three notions about adult educative behavior: (1) the adult partakes of adult education to some extent, that is, he engaged voluntarily in some activities which contribute to the development of his skill, his knowledge, or his sensitiveness; (2) the adult has some type of educational framework in terms of which he operates — this framework is regarded as the individual's concept of education; and (3) the adult has a judgment about the activities which aid him in accomplishing his educational objective, for he knows what he wants to learn, and the activities which serve to facilitate the learning experience.

Broadly conceived, education for the learner is a process which can take place in different situations and in a variety of ways, where similar experiences have different meanings for different individuals. One dimension of adult education then is the process by which an adult voluntarily seeks to achieve his educational aspirations through an individualized program of self-directed study. This aspect of adult education[1] assumes that the voluntary, conscious effort on the part of the participant is important to, if not a prerequisite to, purposeful learning. It is reasonable then to assume that individuals who engage in leisure activities for the purpose of learning are likely to learn more than individuals who use the same activity for other purposes.

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[1] Edmund deS. Brunner, et al, An Overview of Adult Educational Research (Chicago: Adult Education Association of the U.S.A., 1959), p. 48. (Hereafter referred to as "Overview").

The Problem to Be Investigated

To date, emphasis in participation research has been focused on the identification and description of adults who participate in selected programs or institutions of adult education and on what activities adults take part in. The descriptive contributions have been made by researchers concerned with some aspect of adult participatory behavior, i.e., the extent to which adults participate, gross adult educational participation, demographic and socio-economic characteristics, occupations, place of residence, and so on. Although many of the problems of adult education participation investigated are related, the methodologies have been diverse, and the findings are not entirely consistent. Therefore, researchers of participation either have not identified all variables relevant to the educational use of leisure time, or the variables have been identified but researchers have not related them yet to factors associated with participatory behavior. Perhaps the latter is the case, for in the participation studies which have been reviewed, little explicit reference has been made to what the adult thinks or what he believes about his leisure activities which educators have elected to classify, define, and sometimes use as a vehicle for the provision of program activities.[1] According to Furst, however, in measures which purport to sample or predict educative behavior, the individual should furnish the final criterion for judging the educativeness of his activities.[2] Therefore, it was proposed that the educativeness of selected leisure activities for the individual be examined in relationship to his view of education, the frequency to which he engages in these activities, and the judgments which educators have previously rendered about the same activities.

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[1] Since this study seeks to compare the judgment which educators have rendered about certain leisure activities and what participants judge the activities to be, the definition of adult education adapted for this study is: the process by which a man or woman consciously and voluntarily makes an effort to improve his skill, his knowledge, or his sensitiveness. (Adapted from a working definition used by Litchfield when obtaining judgments from educators about the activities included in the "Leisure Activity Survey", Litchfield, p. 228. Litchfield's definition was derived from Houle's definition set forth on page 8.)

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[1] In developing the "Leisure Activity Survey," Litchfield began with three concepts, one of which was that the "adult is the unifying element of his activities". She drew her instrument items (adult activities) from: (1) previously developed participation instruments, (2) research reports, (3) conferences and interviews with continuing learners who had observed the educational activities of adults, and (4) personal experience. The activities were revised and refined with the assistance of educational specialists and fellow students. The final decision on items thought to be educational [emphasis is the author's] was based on the consensus of a panel of selected adult educators. Thus, the persons Litchfield studied responded to a list of "leisure" activities -- some of which were prejudged to be educational.

[2] Edward J. Furst, Constructing Evaluation Instruments (New York: David McKay Company, Inc., 1964), p. 104. (Educativeness of activities is defined as the degree to which an activity is engaged in for the acquisition and development of knowledge, skill, or sensitiveness.)

Hypotheses

Based upon observations from previous participation and related studies and Houle's concept that the "individual is the one enduring, unifying element among the total of his acts of participation",[1] five major hypotheses were advanced. The first hypothesis was that the broader the learner's concept of education, the more likely he is to utilize leisure activities for educational purposes. This hypothesis was derived from the notion that each adult learner is unique and that his utilization of leisure activities for educational purposes springs from a highly individualized and complex interaction of life-long personal and educational experiences which are reflected in his current concept of education.

Because educators, with similar educational experiences differ concerning what leisure activities a learner is likely to use for educational purposes, it is reasonable that learners will differ with educators. Therefore, the second hypothesis was that learners and educators differ significantly in their judgment as to the degree leisure activities are undertaken for educational purposes.

Because of anticipated differences between learners and educators as to what constitutes an educational activity, and because educational activities are used to measure the extent of educational participation, the third hypothesis was that educators' judgments of an individual's total participation in educational activities will differ significantly from learner's judgment of that participation.

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[1] Cyril O. Houle, "Ends and Means in Adult Education Research," Adult Education, XII, No. 4 (Summer, 1962), p. 24.(Hereafter referred to as "Ends and Means").

The fourth hypothesis was related to the third hypothesis but concerned the ranking of study subjects in an array of positions according to extent of educational participation. The fourth hypothesis was that the relative position of an individual in a ranking according to educational participation will vary significantly in terms of these two forms of scoring. The two forms of scoring refer to Litchfield's (LAS) method and an alternate procedure developed as a part of this study.

Since adult education during leisure time is a part of total leisure time, it was conceived that the extent of educational participation was related to extent of total leisure participation. Therefore, the fifth and final hypothesis was that the learner's extent of leisure participation is significantly related to his extent of educational participation as judged by either educators or learners.

Purposes of the Study

As stated in the introduction, the central purpose of this study was to determine to what extent views of participation would change if viewed through the eyes of the learner, rather than the educator. The specific purposes considered to support this theme were (1) to examine the learners extent of participation in relationship to his concept of education (2) to compare the learners' judgments about selected leisure activities with judgments which educators have previously rendered about the same activities, (3) to examine the relationship between extent of participation as defined by the educator and as perceived by the individual, (4) to devise an alternative to the scoring of the Leisure Activity Survey based upon the quantitative judgment of learners, and (5) to contribute to the growing volume of literature concerned with the field of adult education.

Organization of Study

Chapter I has been devoted to a discussion of information considered relevant to this study, e.g., a review of the literature, what the study is about and identification of the problem to be investigated, statements of the major hypotheses to be tested, purposes of the study, and some of the significant implications of the study. This aspect of the study was considered to be the first major step in the development of the research project.

The second step of the study focused upon obtaining three behavioral measuring devices for the study. This step involved accepting the Leisure Activity Survey (LAS)[1], adapting the Concept of Education Measuring Device (CEMD)[2]. And developing, testing, and accepting a third instrument -- "A Survey of Opinions About the Degree to Which You Engage in Leisure Activities for Educational Purposes."[3] Chapter II is devoted to a discussion of procedures employed in accepting and developing the measuring instruments utilized in this study.

The third step of the study consisted of selecting study subjects, collecting data, and preparing the data for computer analysis. The emphasis in selecting study subjects was placed upon the individual adult participating in a variety of educational activities, where program sponsorship varied. Also, an attempt was made to study subjects from various age groups and income levels, the sexes, different educational levels, various occupations, and different places of residence along the rural-city continuum. The data-collecting procedure along with a description of the study population is discussed in Chapter III.

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[1] The Leisure Activity Survey developed by Ann Litchfield is a copyrighted document. Permission has been granted for its use in this study.

[2] The CEMD is used in this study with the permission of Mr. Metcalfe.

[3] Hereafter referred to in this study as the "Opinion Survey".

The fourth major step of this study was an analysis of data. A discussion of this step, presented in Chapter IV, is organized around a statement of the hypothesis under construction and a description of the statistical treatment used to either support or reject the respective hypothesis. Chapter V is devoted to a discussion on study conclusions, implications of findings to the field of adult education, limitations of the study, and suggestions for further research.

CHAPTER II

INSTRUMENTATION

Chapter II is devoted to a discussion of study instrumentation. The first part of the chapter deals with the procedure followed in adapting the "Leisure Activity Survey" (LAS)[1] and the "Concept of Education Measuring Device" (CEMD)[2] to the purposes of this study. The latter part of the chapter is devoted to a discussion of the procedure used in developing and adapting the survey entitled "A Survey of Opinions About the Degree to Which You Engage in Selected Leisure Activities for Educational Purposes," an instrument developed as a part of this study.[3]

The Leisure Activity Survey (LAS)

In total, the "Leisure Activity Survey" developed by Litchfield to measure the adult's extent of educational participation in educational activities, seemed applicable to this study. Acceptance of the LAS was based on: the theoretical and practical guidelines from which the instrument was developed, the behavior which the instrument purports to measure, the review of literature from which the activity items included in the instrument were obtained, the statistical treatment to which the instrument has been subjected, the wide use of the instrument by other investigators concerned with adult education participation, and the belief that it is the best instrument available from which to measure the extent of educational participation in leisure activities.[1]

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[1] Refer to Appendix A.

[2] Copy of the instrument included in Appendix A.

[3] A copy of the instrument is included in Appendix A.

The theoretical guidelines supporting the development of the "Leisure Activity Survey" were reported by Litchfield to be:

(1) All men and women possess in some measure the desire to learn - a position advocated by Houle and supported in subsequent investigation by Brown, Sheffield, Ingram, Johnstone and Rivera, Netherton, Copeland[2] and Burgess.

(2) Adult education is the process by which adults (either alone or in groups) consciously and voluntarily try to improve themselves by increasing their skills, their knowledge or their sensitivity — a definition of adult education advocated by Houle and used by the above investigators when attempting to inquire into adult participatory behavior in certain activities considered to be educational in nature.

Using the above definition in developing the LAS, Litchfield states:

> Many persons would agree that certain activities are more likely than others to be undertaken for educational purposes. Thus in the construction of an instrument following from the definition stated above, attention was devoted to the 'probable' amount of educativeness with which activities are undertaken and to consider judgments of educators of the expectations of change or increase in skills, knowledge, or sensitivity on the part of the majority of the people who take part in the activity.[3]

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[1] The next nine pages of this chapter are devoted to a summary of Litchfield's rationale and procedure for the LAS. The reader, familiar with the Litchfield study may wish to turn to page 14 for the discussion on adapting the LAS to the current study. The summary is provided here for purposes of information and subsequent comparisons.

[2] Harlan G. Copeland, "Organizational Accomodation Types and the Continuing Educational Learning Activities of Adult Educators," (unpublished Ph.D. dissertation, Dept. of Education, University of Chicago, December, 1969).

[3] Litchfield, "Nature and Pattern," pp. 22-23.

(3) The individual is the one enduring, unifying element among the total of his acts of educational participation[1] - a theoretical position suggested by Houle and supported by Sheffield who reports: "results show that the adult learner is not likely to be excessively enamoured of one agency or method of adult education. Instead he seems to turn to a variety of sources or institutions if he perceives them as a means of achieving his educational purposes."[2]

Practical guidelines which Litchfield used in the development of the LAS instrument were as follows: (1) Breadth and comprehensiveness of activities were desired in the process of item selection, (2) Excellence of activity items was considered beyond the scope of the instrument, (3) The instrument was to be applicable for general investigative purposes, (4) The format and directions of the instrument were to be self-explanatory for group-administering, (5) The instrument was to be adaptable to either hand or machine scoring, (6) The instrument was to be "masked" to eliminate possible respondent bias toward education, and (7) The instrument should include sufficient activities of a non-educational nature so that responding to the survey did not become a negative experience.[3]

In developing the "Leisure Activity Survey," Litchfield took the steps that follow. These are described in some detail because the present study requires the development of an alternate method of scoring.

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[1] Houle, "Ends and Means," p. 214.

[2] Sheffield, "Orientations," p. 147.

[3] Litchfield, "Nature and Pattern," pp. 24-25.

Identification of Activity Items[1]

The activity items incorporated in the LAS were obtained from four main sources: (a) instruments used in adult education and in other related areas of the social sciences which were designed to measure educative, recreative, or social participation; (b) research reports and other literature in the field of adult education and related areas; (c) conferences and interviews with continuing learners who had observed the activities of people whom they encountered; and (d) personal experiences of the investigator. From those sources a total of 225 leisure time activities were identified.

Representation of Activity Items[2]

In developing the LAS and in making a final decision on the activity items, Litchfield used specialists to assist in determining the comprehensiveness of the list of activities and in checking for the clarity of item content. For example, librarians were asked to make judgments and suggestions regarding books and magazines in terms of coverage, illustrative examples, and the language in which the institution's clientele requested or referred to library related activities. Litchfield, along with a member of her advisory committee, independently examined the list of activity items for representativeness of probable activities that men and women, by different demographic characteristics -- for example, marital status, socio-economic class, areas and places of residence, age, educational level, religious affiliation, racial characteristics, and ethnic background—might utilize for educational purposes. In the course of determining the appropriateness of the activities, the working list was reduced to 125 items.

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[1] Ibid., p. 25.

[2] Ibid., p. 26.

Refinement of Activity Items[1]

In refining the activity list, Litchfield reported that attention was devoted to the consistency of grammatical form between items and the readability level[2] of the language used to describe the activity. To improve the clarity of items and to foster easiness of response, adjectives and examples were employed to include such descriptive phrases as: "like", "such as", "similar to", and so on.

Nine judges were selected for the task of instrument assessment and evaluation. The judges were presented with the instrument and asked to read and follow the written directions. The activity items were refined in light of the judges' comments, and the number of activity items were reduced to 99 by eliminating duplication of items and by the reconstruction of certain combinations of similar items.

In refining the list of activity items, the nine judges suggested that the activity item list be left "open" by the placement of a section in the instrument which states "please list any additional activities in which you participate during your leisure time. Also, write how often you took part in these activities in the past year." It was believed this section had a psychological value of providing the respondents with an opportunity to identify activities of any nature which had been omitted from the item list. Such a section would also provide a test to determine if activities would be written which were already thought to be included in the instrument.[1] From the refinement procedure, the LAS design was conceived.[2]

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[1] Ibid., p. 27.

[2] Readability level not reported.

The Identification of Educational Items[3]

The next step was to obtain knowledgeable judgments about the 99 activity items in terms of the educational expectations with which they might commonly be undertaken for educational purposes and then to ascertain the ranking order of the identified activities in terms of the degree of educational expectations with which they might be engaged in for educational purposes. Sixteen judges[4] were asked to discriminate among the 99 activities on the basis of four categories (1) Almost Always Undertaken for Educational Reasons, (2) Frequently Undertaken for Educational Reasons, (3) Seldom or Never Undertaken for Educational Reasons, and (4) Clearly Do Not Belong in any of the Other Categories. The judges' categorization of the 99 activities, including a copy of instructions, are listed in Appendix J. As a result of the judges' decisions, 46 activity items were determined to be educational items 24 activities were considered Almost Always undertaken with educational intent, and 22 activities were considered to be Frequently undertaken with educational intent. The items judged to be Seldom or Never undertaken for educational purposes and those items which the judges identified with the category "Does Not Belong in any of the Other Categories" were considered to be non-educational items and were used as fillers in the "Leisure Activity Survey".

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[1] From a review of approximately 2,400 recent responses to the Leisure Activity Survey, it is evident that the activity items as listed are rather inclusive. (Responses reviewed include approximately 700 from the study by Copeland, 700 included in one way or an other in the current study, and 1,000 from the study by Burgess. Interview with Burgess, 3/15/71.)

[2] One experimental version asked the respondent to indicate if he took part in the activity; if so, he was asked to indicate how often, if not, he was asked to go on to the next item. The second format included numerical equivalents for such time scales, and the respondents were requested to write in the assigned numerical value in the space preceding each activity item.

[3] Litchfield, "Nature and Pattern," p. 31.

[4] The 16 judges were all professional and considered to be specialists in their respective fields of education.

Scoring the Leisure Activity Survey[1]

In total, the "Leisure Activity Survey" purports to measure the extent of one's educational participation in the 46 educational activities by quantifying three dimensions of adult participatory behavior: (a) The number of educational activities engaged in, (b) the degree to which each activity was commonly thought to be engaged in for educational purposes, and (c) the amount of time spent in each of the educational items during the past 12 months.

In brief, Litchfield's procedure in arriving at an acceptable method for scoring the respective parts of the LAS is as follows:[3]

(1) Number of educational activities - the number of educational activities engaged in by responden is determined by counting and adding together the number of the 46 activities in which the respondent indicates that some time was spent.

(2) Degree of educativeness of the educational activity items - one consideration in devising the scoring system for the educativeness of the activity was that recognition be given to the

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[1] Litchfield, "Nature and Pattern," p. 33.

[2] For a more detailed description of the scoring process, reference is made to the Litchfield study, chapter II, pp. 33-41.

differential participatory behavior of persons who participated extensively in a few activities judged to be more educational compared with persons who participated little in many activities judged to be less educational.

To allow these dimensions to be reflected in an easily calculated total score, differential weights were assigned to those activities which the judges had determined as generally more educational ("Almost Always" category) and other activities ("Frequently Educational" category). To provide maximum variation among the activities in these categories, the respective categories were subdivided into two groups. The activities in each of the categories were ranked as relatively more, or less, educational than other activities in the category according to the score derived from the judges' ratings. The activities clustered together in the categories were considered to be one group, and the remaining activities comprised the second group. Differential numerical weightings, ranging from a high of 4 to a low of 1, were then assigned to the activities in each of the four groups. Thus, 24 activity items in category "Almost Always Educational" were subdivided as 19 items, each with a weight of 4; and 5 items, each with a weight of 3. The 22 items from the "Frequently Educational" category were subdivided as 10 items, each with a weight of 2; and 12 items, each with a weight of 1.[1]

(3) Amount of time spent in the educational activities -- in arriving at a system for weighting the amount of time spent in

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[1] Thus, the items assigned a value of 4 were considered most educational and most likely to be engaged in for educational purposes. Appendix B includes a list of items with assigned weights.

the educational activities, Litchfield attempted to group the activities according to the way each one would generally appear in life situations. When exploring involvement in the leisure activities under consideration, Litchfield concluded that many adults seem to express their participation in days, weeks, months, years, or seasonal terms. For example, newspapers, often published daily, are generally read more or less than once a day, whereas church attendance seemed to be on a weekly basis. On this basis, and with the assistance of a panel of judges, Litchfield refined the scale time intervals to five categories daily categories weekly categories monthly categories and yearly categories As a result of a second review by the panel of judges, the grouping of items was determined for placement in the instrument. In the final instrument, one additional category "not at all" was added so that respondents might be requested to respond to all items in the instrument.[1] The numerical value assigned to the interval time scale to indicate the amount of time spent in each activity ranged from 0 to 5 . The "not at all" category was represented by "0" and each successive number represented a greater amount of participation.[2]

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[1] Assumed.

[2] For machine scoring, these values are changed to read 1 to 6 . Appropriate subtractions are to be made to achieve the same total participation score.

Validity of the Leisure Activity Survey[1]

Litchfield established validity on the LAS by comparing and analyzing the differences in mean scores obtained from three groups responding to the "Leisure Activity Survey" and another instrument ("The Leisure Activity Index", developed by Ingham which purports to measure the same behavior as the LAS). Using analysis of variance, the differences between the mean scores of the three groups on the two tests were compared to test the hypothesis that "the three groups did not differ significantly in the statistical sense to which they engaged in the educational behavior tested."[2] No significant difference among the scores of the three groups by the two measures was found.

Further validation of the LAS was obtained by comparing the mean score of a group identified as "low scorers" on the LAI[3] with the mean score of a combined group of "high scorers" on the same instrument. Then the LAS mean scores from the same two groups were compared. The results indicated that the differences in mean scores between high - and low-scoring groups which occur on both instruments can be attributed to chance only 5 times in 100 for the LAI and only 1 time in 1,000 for the LAS.

Because of the procedure by which Litchfield obtained activity items and the methodology by which the final items were determined, the question of validity appears to be satisfactory for the purposes of this study.

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[1] Litchfield, "Nature and Pattern," p. 37.

[2] *Ibid.*, p. 41.

[3] Leisure Activity Index developed by Ingham.

This position was strengthened by the lack of additional activity items in the data collecting procedure from two recent studies including approximately 2,400 respondents. The absence of suggested items also appears to satisfy, in part, the time lapse between the development of the Leisure Activity Survey and the data-collecting time for the current study. Thus, it appears reasonable that both content and concurrent validity concerns have to a high degree been satisfied.

Reliability of the Leisure Activity Survey[1]

Litchfield determined two types of reliability for the LAS - the coefficient of stability (by test/retest procedures) and the coefficient of equivalence. The coefficient of stability was determined to be .77 by the Pearson Product Moment Procedure, and the coefficient of equivalence was determined to be .88 by the Kuder-Richardson Formula 20.

The discrepancy between the two coefficients of reliability was explained as follows: (a) the product moment correlation is a correlation of respondent's scores to the same instrument on two separate occasions; (b) the reliability coefficient by the KR20 formula is an indication of variations in a subject's responses within an instrument only once; (c) the number of subjects in the two tests varied greatly; (d) the KR20 procedure considered the responses to 99 items, while the product moment results considered only the 46 educational items.

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[1] As reported by Litchfield, "Nature and Pattern," p. 50.

Adapting the Leisure Activity Survey
to the Purposes of this Study

Even though the LAS seemed to satisfy the dimensions and requirements of the current study as the best instrument available for measuring the extent of educational participation, some pilot work with the instrument seemed advisable. The purpose of the pilot work was to allow the investigator to determine the time required by respondents to complete the instrument, to gain some insight into the behavior which respondents exhibited as a result of being asked to complete the instrument, to become familiar with the scoring procedure of the instrument, and to check reliability coefficients.

For purposes of the pilot study, the LAS was administered by the investigator to 64 persons in and around the Chicago area and the area of Blacksburg, Virginia during the summer and fall of 1968. The responses were reviewed, hand-scored, coded and prepared for machine analysis.

Because the LAS was to be used in a packet of instruments, the time required to complete the instrument and the respondents reactions were important. Therefore, when securing the pilot responses, notes were kept on the time required by different individuals and groups to complete the LAS. From the 64 responses, it was concluded that the maximum time requirement would be about 45 minutes. The average completion time for the 64 respondents was approximately 23 minutes. Also, it was concluded that, when using the LAS in a group situation, respondents' reactions were more positive; whereas, on an individual basis respondents were more reluctant to cooperate because of various reasons, e.g., "too busy", "see me later", "what about tomorrow?" and so on.

In becoming familiar with the scoring of the instrument, the investigator developed a one-page guide to record and sum individual responses to the 46 LAS educational items. By hand-scoring the 64 responses, the investigator became familiar with the 46 items, their weights, and the process of determining total extent of participation score by the LAS procedure.

To determine stability of the LAS, twelve adults on the staff at V P I & S U were asked to respond to the instrument on two occasions, 14 to 18 days apart. By the Pearson Product Moment Procedure the correlation between sets of scores was determined to be .796 (percentage of agreement between individual scores ranged from a low of 70% to a high of 87%. Mean average was 82.3%). Thus, the coefficient of stability was close to that determined by Litchfield.[1] This was interpreted to mean that the reliability of the LAS was rather stable between different groups and different subjects.

Another use of the pilot data was to verify the LAS reliability factor for internal consistency (split-half). By use of the Kuder-Richardson Formula 20 (a test for internal consistency) with the pilot data, the coefficient for internal consistency was determined to be .896.[2] From an analysis of the 288 responses to the current study, the coefficient, by the same formula, was determined to be .903. Therefore, since the three coefficients obtained from different groups were very similar, they can be interpreted as a good approximation for an equivalent-form correlation.

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[1] Litchfield determined the stability coefficient to be .77 by the same procedure.

[2] Litchfield, "Nature and Pattern," p. 51. (Litchfield found the coefficient to be .88 when analyzing the responses from the 1,149 subjects included in her study.)

Thus, based on the rationale from which the LAS was developed, the statistical treatment to which the instrument has been subjected, the wide use of the instrument, Litchfield's demonstration of validity and reliability and the pilot study, the Leisure Activity Survey was acceptable to the purposes of this study.

Concept of Education Measuring Device (CEMD)

The Concept of Education Measuring Device (CEMD), developed by Metcalfe, purports to differentiate individuals according to their conceptualized viewpoint of education.[1] Because of the behavior which the instrument purports to measure, the rationale from which it was developed, and the length of the instrument, the CEMD was considered applicable to the purposes and hypotheses of this study. Acceptance of the CEMD, however, was based on a series of theoretical, practical, and statistical properties which were investigated over a period of about seven months.[2] These properties are discussed in the paragraphs that follow.

The first concern with the CEMD was the theoretical implications of the rationale used by Metcalfe to design and develop the instrument. In brief, Metcalfe found that an effective and "comprehensive understanding of education could be satisfactorily classified by a rationale including the following six areas of concern to educators".[3]

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[1] Used in this study synonymously with the terms "Concept of Education".

[2] June - December, 1968.

[3] Metcalfe, "Concepts of Education," p. 21. Sources which Metcalfe used in the development of the rationale for the CEMD were: John Dewey, Experience and Education; Ralph Tyler, Basic Principles of Curriculum Development and Instruction; Coolie Verner, Adult Education -- Theory and Method; Sir Richard Livingston; On Education and class notes from Education 300, 382, 383, and 482. (Houle, Schwab, and Aker .)

1. Educational objectives — the desired result of education; such as, increased knowledge, improved skill, increasing competence, or a modified society.

2. Educational process -- the recognizable stages or steps in the development of education related to the learner's view point, i.e., obtaining attention, creating awareness, collecting information, comparing thoughts, creating ideas, testing results, and weighting alternatives.

3. Educational institutions -- the organized institutions of education; such as, public schools, colleges, libraries, voluntary agencies, and museums.

4. Educational methods and techniques -- the means by which education is accompished, i.e., conferences, tours, contests, bull sessions, lectures, discussions, interviews, and motion pictures.

5. Educational environment -- the total set of conditions under which education takes place, i.e., purposeful, lifelong, formal, informal, rigorous or permissive atmosphere.

6. Educational participants -- the learners who are often characterized into such groups as executive union members, the blind, autonomous learners, golden agers, the able, and the curious.

Proceeding from the above rationale, Metcalfe developed the CEMD by following four additional steps. These steps are summarized in the paragraphs that follow.

The first step was to obtain representative statements of different concepts of education, based on the six items included in the theoretical framework, and the following criteria:[1]

1. Statements which were understandable to County Extension Workers

2. Statements which dealt with behavior which County Extension Workers consider appropriate

3. Statements which represented an acknowledged area of concern to recognized educators

From the literature, practicing adult educators, faculty members, and graduate students, Metcalfe obtained 164 statements and phrases describing or defining various views of education.

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[1] Metcalfe's population was Informal Adult Educators (County Extension Agents).

Metcalfe's second step was to validate the statements obtained. The 164 statements were refined and combined into 94 statements. These were then arranged in random order and submitted to a panel of 12 experienced educators. The judges were asked to rate each statement on a four-point scale (very broad, somewhat broad, somewhat narrow, very narrow) according to breadth or narrowness of educational concepts. The 48 items which received an agreement of at least 75% of the judges were retained for further validation.

The third step involved an appropriate format and further statement validation. Metcalfe, from a study of six different forced-choice rating formats, decided that the most appropriate format was four validated statements formed into a tetrad from which the rater or respondent selected the two most descriptive statements of what he believed "education" to be.

The 48 statements were arranged into 12 tetrads and submitted to a second panel for further validation. The purpose of the second validation was to determine which paired items represented the broadest concepts of education. This process resulted in the validation of 48 items on the basis of the following criteria:

1. Statements representing broad educational concepts
    87 to 100% agreement -- very broad
    67 to 86% agreement -- quite broad
    Less than 66% agreement - rejected

2. Statements representing narrow educational concepts
    87 to 100% agreement -- very narrow
    67 to 86% agreement -- quite narrow
    Less than 66% agreement -- rejected

The statements, validated as a result of the above procedure, were subjected to a test/retest method with a third panel to determine reliability. Reliability was computed as percentages of agreement between the choices made by each judge on two identified tests administered 6 to 12 days apart. The test/retest comparison, which ranged from 92 to 100% resulted in a mean agreement of 97% for the panel.

The fourth step was a field test conducted with 32 County Agriculture Agents, 16 of whom were categorized by their supervisors as exhibiting a high degree of educational orientation toward their jobs with 16 categorized as having a low degree of educational orientation. Each respondent was asked to select the two phases of each tetrad which best characterized his understanding of education. The agents who were classified as showing high educational orientations selected significantly more statements representing broad concepts of education than did respondents classified as exhibiting low educational orientations.

In addition to determining whether the CEMD would discriminate between the two types of respondents under field conditions, the field test was also used to further validate individual instrument statements. This procedure resulted in a reduction of statements from 48 to 32. Consequently, items used in the instrument had proven discriminatory between broad and narrow concepts of education, high validity under field conditions, and a high degree of reliability.

Accepting Metcalfe's procedure and calculations to be accurate, the task of adapting the CEMD to the purposes of this study remained. The task involved accepting a measuring device developed and tested with adult educators and adapting it to a group of adult learners. In determining the statistical properties of the instrument, the ultimate concern was "Does the CEMD discriminate between adults to the extent that respondents could be categorized as holding either a broad or narrow concept of education?"

Operationally, the areas of concern with the CEMD focused on: (1) the appropriateness of the rationale from which the instrument was developed for the adult population at-large, (2) validity of the instrument with a new population, and (3) instrument reliability. Each of these concerns and the treatment to which they were subjected are discussed below.

Appropriateness of Metcalfe's Rationale

For an appropriate framework to get at the adult's view of education, Metcalfe's rationale was discussed with several staff members in the Department of Education at the University of Chicago. Personal interviews were held with two of the three faculty members who served as advisors to the Metcalfe study. Informal interviews and discussions were conducted with fellow students. Discussions on Metcalfe's rationale were held with members of the Adult Education Research Seminar at the University of Chicago on two occasions, and a telephone interview was held with Dr. William M. Metcalfe.[1]

After discussing the consensus obtained during the formal and informal interviews with the University of Chicago staff members serving as advisors to this study, it was concluded that Metcalfe's rationale was rather inclusive of the various dimensions one might normally associate with the process of education. Since each of Metcalfe's dimensions was represented (to varying degrees) in the instrument, the measuring instrument was capable of identifying at least two views of education -- broad and narrow.

Instrument Validity

Although validity of the CEMD was established with the population Metcalfe studied, the question arises: "How valid is the instrument for dichotomizing between adult learners in general on the basis of their concepts of education?"

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[1] Dr. Metcalfe was assistant director of State 4-H Club Work at the University of Massachusetts at the time of this interview.

To determine the discriminating function of the CEMD with the population at-large, the instrument was administered to 83 adults in and around Chicago during the summer of 1968. Adults in this sample included sales personnel, secondary school administrators, graduate students, secretaries, housewives, bankers, industrial employees, hourly employees, and other adults who agreed to respond to the questionnaire.

The results obtained from the 83 responses were summarized. The results are compared with the distributions of respondents obtained by Metcalfe in the following table:

TABLE II

A STATISTICAL COMPARISON OF PILOT DATA WITH METCALFE'S DATA

	Pilot Study[a] Respondents N = 83	Metcalfe's Respondents N = 304	Difference
Overall mean score	89.3[a]	89.4	.1
Narrow mean score	73.7	78.7	5.0
Broad mean score	104.4	100.4	4.0
Very broad mean score	112.1	109.4	2.7
Somewhat broad mean score	95.5	96.4	.9
Somewhat narrow mean score	81.9	83.4	1.5
Very narrow mean score	65.9	68.7	2.8
High score	128.0	128.0	..
Low score	51.0	58.0	7.0

[a] Mean score for study population were somewhat lower than the pilot-study responses.

A second validity test was the inter-item correlation of statement responses to determine if the instrument differentiated between broad and narrow responses. On the basis of correlation coefficient, items that were designated to be narrow statements of education correlated with other narrow educative statements between -.002 and .797;[1] whereas, items designated to be broad statements correlated with other broad statements at around the -.266 and .393[2], thus indicating that a difference existed between concepts of education.[3] These findings were interpreted to mean that, operationally, knowing the response to one broad statement tells almost nothing about what a subject will respond to another broad statement. Conceptually, the finding means that the responses to broad and narrow statements do not measure the same thing. Thus, on the basis of the 83 sample scores, pilot respondents could logically be categorized into two groups: those who held broad concepts of education and those who held narrow concepts. These observations appeared consistent with the findings of Metcalfe and further substantiated the use of the CEMD for the purposes of this study.

A third validity test involved the comparison and rankings of individual definitions of education in relationship to the quartile position (1st, 2nd, 3rd, 4th) of the individual's CEMD scores. When securing the 83 responses to the CEMD, the investigator also secured the respondent's definition of education by attaching a form to the CEMD requesting that each respondent define education in his own terms, regardless of whether he agreed or disagreed with any or all of the 32 statements in the CEMD.

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[1] A majority of narrow statements were between .50 and .70.

[2] A majority of broad statements were between .10 and .25.

[3] Tables 25 and 26, included in Appendix C provide a summary of the inter-item correlation coefficients of the 32 CEMD items as determined by the MASA 85 program on the 70/94 computer from the 83 responses analyzed.

From the 83 definitions obtained, 15 (19%) were randomly selected for further study and analysis. The 15 definitions were arranged in a survey questionnaire in which 18 adult educators[1] were asked to judge the breadth of the definition on a pre-determined scale. In addition to Metcalfe's rationale, the judges were provided with the following instructions from which to render a judgment on the individual definition:

> Definition of Education -- An Opinion
>
> Education is defined as "any process by which a person, either alone or in a group, tries to improve himself by increasing his knowledge, skill, or sensitivity, or the process by which individuals or organizations try to improve people in these ways." (Adapted by W. W. Metcalfe from a working definition of adult education by C. O. Houle.)
>
> Listed below are fifteen definitions of education which have been recently obtained from representatives of the general adult population, i.e., adults encountered over the past two months who were willing to respond to Metcalfe's instrument on "Views of Education". The fifteen definitions were randomly selected from 83 responses to the request, "My definition of education is ______________________________________".
>
> Using the above definition of education, you are asked to rate each of the respective "definitions on a scale of from 1 to 4, depending upon your interpretation of the breadth or narrowness of the message conveyed by the statement. In the four point scale: 1 represents a very narrow definition, 2 represents a somewhat narrow definition, 3 represents a somewhat broad definition, and 4 represents a very broad definition.

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[1] Members of the Adult Education Research Seminar at The University of Chicago and the Extension Education Research Seminar group at VPI (Summer and Fall quarters, 1968).

The coefficient was computed by the Spearman Rank Order Correlation Procedure (Rho).[1] The coefficient was calculated to be +.64 (df=13, $P < .02$).

Reliability -- CEMD

To determine the CEMD reliability, the coefficient of stability between the test/retest procedure was used. The instrument was administered to 37 employees of VPI on two occasions during a 7 - 10 day period during December, 1968. The respondents included hourly employees, secretaries, and staff members. The correlation coefficient between test and retest was calculated to be .913[2], which represented a range of 88 to 100% agreement among respondent scores on two occasions. Mean of agreement was 95%.

Based on the appropriateness of Metcalfe's framework, the procedure used by Metcalfe to develop the CEMD, the validity of the instrument when compared with an outside measurement, and the determined reliability coefficients, the CEMD measuring device, as developed by Metcalfe, was acceptable to the purposes of this study for differentiating among adult learners according to their concepts of education.

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[1] The Spearman Rank Order Correlation procedure has it limitations for "too many ties will affect the size of the correlation coefficient" [N. M. Downie and R. W. Heath, Basic Methods (New York: Harper and Row, 1965), p. 206]. However, with the small size of N and the maximum number of ties being 20% expected for any rank position, Rho was considered an appropriate test. 20% rule-of-thumb guide established after consulting with Dr. Jess Arnold, teacher of non parametric statistics, VPI&SU, Statistics Department, Blacksburg, Virginia.

[2] By the Pearson moment procedure (df = 35, $p < .01$).

A Survey of Opinions About the Degree to Which You Engage in Selected Leisure Activities for Educational Purposes

(Opinion Survey)

This part of Chapter II is devoted to a discussion of the theoretical and practical guidelines followed in developing a measuring device for obtaining the learners' judgments about the "degree to which they engaged in selected leisure activities for educational purposes."[1]

The theoretical guidelines which influenced the nature of the Opinion Survey were the same as used by Litchfield when developing the LAS.[2] The operational direction, however, was altered to focus upon a means by which the learner might identify the degree to which he (she) utilized certain activities for educational purposes. The differences in operational direction provided the practical guidelines for developing the "Opinion Survey" as follows:

1. Excellence and/or effectiveness of an activity, or the amount of learning by the learner as the result of using a particular activity are considered beyond the scope of the "Opinion Survey".[3]

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[1] The instrument is also referred to as the "Opinion Survey"..

[2] The three guidelines were discussed earlier in Chapter II (pp.2-3). For purposes of review, they were: (1) all men and women possess in some measure the desire to learn, (2) Litchfield's definition of adult education, and (3) the individual is the one enduring element among the total of his acts of educational participation.

[3] This investigator would readily admit that the amount and quality of learning are extremely important to the field of adult education, and perhaps will rightly become the concern of future research. The current concern, however, is the extent of adult education participation during leisure time. Thus, it is assumed that if an adult used his leisure time for self improvement, excellence of learning through the use of selected "leisure activities" is at its best.

2. Because of the nature of the study and comparisons to be made, it was necessary that the "Opinion Survey" contain activity items identical to those used in the LAS.
3. The instrument was to be applicable to adult men and women of various social, economic, and educational backgrounds and marital status. Thus, instrument instructions were to be clear for ease of response.
4. The instructions were to convey the same general information which Litchfield provided for the 16 judges who rendered the decision as to which of the LAS activity items were to be considered educational.[1] A basic concern of this criteria was converting Litchfield's instructions, written in professional language, to a layman's language instructing the participant to judge his own activities.
5. Because of study design and procedure to be employed in data collection, the instrument was to be self-explanatory and self-administered.
6. The survey was to be in a format for easy handling, and scoring, and possessing reliability approximately equal to that obtained by Litchfield for the LAS.
7. The instrument instructions were to provide a definition of adult education.[2]

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[1] Copy of Litchfield instructions included in Appendix D.

[2] This criterion resulted from a discussion with the members of Adult Education Research Seminar at the University of Chicago. The alternatives were to let the respondent use his own definition of adult education when responding to the instrument or supply a definition. Since Litchfield supplied a definition to her judges, and respondents were to be considered as judges in this study, it was appropriate that the two sets of judges receive the same definition. Litchfield's definition was included on Page 2, Chapter II.

Guided by theoretical and practical considerations, the "Opinion Survey" was conceived. The remaining task was to construct, test, and adapt the instrument to the purposes of this study. The subsequent discussion is devoted to the practical steps involved in constructing the instrument.

The first step was an initial assemblage of the instrument according to the investigator's interpretation of Litchfield's instructions whereby the respondent was asked to judge the educativeness of his own activities. The initial instrument was distributed to 28 participants enrolled in a workshop for administrators of University Adult Education at the University of Chicago, during the summer of 1968, for the purpose of obtaining an evaluation on the clarity of instructions and reactions to completing a survey form of this nature. The instructions asked the respondents to be extremely critical of the instrument, its wording, and the format. As a result, the respondents made written comments as to areas of concern. During the following 2 weeks of the session, the investigator attempted to discuss respective comments with respective respondents.

During the closing week of the workshop session, the investigator assembled a second draft of the "Opinion Survey", incorporating suggested comments, for a second distribution to the same group. Receiving few comments and concerns it was concluded that such an instrument was feasible and could be adapted to the purposes of this study.

The second step was to use the instrument under field conditions to determine clarity and reliability. From reviewing the practical guidelines and the reactions obtained from the workshop group described in the first step, it seemed reasonable to develop another draft of the instrument which incorporated a time dimension consistent with the LAS[1] and provided an additional response category whereby a learner could respond to each activity, even if the activity was utilized for other than educational purposes.[1]

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[1] Ingham supported the notion that a 12 month time limitation was desirable when asking adults to recall behavior with certain activities. Litchfield also used the 12 month time element in the LAS.

After redrafting the instrument to include the additions and discussing the format with the investigator's committee chairman,[2] the decision was that the instrument looked good and was believed ready for field testing. The trial pretest direction was a test/retest procedure with 12 Extension staff members at VPI during December, 1968.[3] Obtaining a 90% agreement between scores on the test/retest process and some word changes, the conclusion was that the instrument could be revised for testing.

Incorporating suggested changes in the instructions, it was decided to pretest (test/retest) the instrument with a group of 24 County Extension personnel participating in a "new-workers" orientation conference conducted at the Donaldson Brown Center for Continuing Education at VPI.[4] The test/retest resulted in a mean average of 93.2% agreement between individual scores.

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[1] At the time, it seemed reasonable to divide Litchfield's fourth response category ("Does not clearly belong in any of the other categories") into two categories. The two categories were entitled, "not engaged in during the past 12 months for educational purposes" and "do not engage in for educational purposes".

[2] Miss Litchfield served as chairman of this study for a period of time while Professor Houle was out of residence.

[3] The time lapse between test/retest was 12 days. This group was accessible to the investigator and was considered to be a group sensitive to the layman's vocabulary and to the field conditions under which the instrument would be used.

[4] Because this was a one week (5-day) conference, which did not allow for the desired time lapse between responses, the first test was mailed to the respondent 15 days before the conference began. Respondents were asked to return the survey by mail and note the date of completion. This second test was administered during the conference. The maximum time lapse between 22 responses was 14 days. Two responses were below the established minimum time of 7 days. In many respects, this group was believed to be somewhat representative of the learners with whom the survey would be used.

Lowest per cent of agreement was 83, and the highest was 98. Upon analyzing, inspecting, and comparing individual responses by items, it appeared that items designated to be "almost always" and "frequently" educative were rather consistent. The item fluctuation, or variance, between test/retest by individual learners was basically obtained from the latter two categories. This observation was not considered detrimental, for the first two categories were those useful for the comparison to be made in testing the hypothesis. It was concluded that the instrument did have reliability comparable to, or above, that obtained by Litchfield for the LAS. After reviewing the comments and results obtained from the instrument pilot test, the Opinion Survey was considered ready for field test.

The third step was to assemble the total instrument packet and to administer the packet to several groups of adult learners. This step was to be the final stage of pilot study, and the results obtained were to be used to make a preliminary test of the hypothesis.

Three groups of adults were selected to participate in this task as representing adult learners.[1] The first group was a group of dairy farmers enrolled in a dairy "short course" at the VPI Center for Continuing Education. The second group was made up of women from Roanoke County, Virginia, enrolled in a commercial typing and shorthand course. The third group was composed of adults participating in a metal use shop course taught by the Roanoke County public school system. The instrument was administered to the three groups during January, 1969.

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[1] N of 83. Selection based on the notion from the literature that all adults participate to some degree in educational activities. Also, the participants in these sessions could be classified within the parameters of the definition of adult education herein under consideration.

Upon administering the packet of instruments and discussing the instruments with respective members from the three groups, the data were coded and transferred to data cards for machine processing.

The fourth step was to be a preliminary analysis of the data, to facilitate the data analysis procedure for the study. To accomplish this task, the investigator established appointments with respective members of the advisory committee for purposes of reviewing the study proposal, the steps taken toward the development of the instrument, and the proposed statistical treatment to which the data would be subjected.

From the in-depth review, the discussion of data, and the discussion on the evaluation of the instrument development procedure with committee members, it became evident that the instrument had certain limitations. The concerns focused upon the five categories into which respondents were asked to place items, the decision to be made by the respondents before responding to the items, the format of the "Opinion Survey", and the scope of behavior under investigation. These concerns were raised in light of proposed comparisons to be made between judgments rendered by the educators and judgments obtained from the pilot groups. Thus, it was evident that the practical guidelines were not inclusive for the development of the Opinion Survey. The task would have been simpler had at least two additional criteria been established: (1) a guideline concerned with the number of instrument categories to be used, and (2) a realistic anticipation of the time required for developing and testing an instrument of this nature.

At this point the investigator was confronted with three alternatives: (1) drop the study, (2) pursue the investigation under the then current direction; or (3) revise the instrument according to committee recommendations. The first alternative was contrary to the investigator's purposes of the study. At best, the second alternative would have required another pilot study with the question, "What is the effect on subject responses when five versus four categories are available?" unanswered. Therefore, because of the comparison to be made, the decision was made to revise the instrument by the additional practical guidelines as follows:

1. Limit the scope of the instrument to the behavior of engaging in selected leisure activities.
2. Word the instrument's instructions so that respondents might reply to a direct question without going through a series of decisions before responding to the survey items.
3. Design an experiment to settle the question of format.
4. Eliminate the 12-month time dimension.
5. Limit respondents to four categories, identical to those Litchfield used with the judges rendering the decision on educational items.

With the additional guidelines, the investigator in the summer of 1969 began a series of additional steps to perfect the Opinion Survey. These steps are subsequently discussed as a continuation of the previous four steps.

The fifth step was to obtain additional validity on instrument instructions. Again, the objective was to provide instructions as similar as possible to the instructions provided Litchfield's judges. As a means to this end, the investigator conducted two additional pilot studies. The first investigation involved obtaining a consensus on instrument instructions[1] from fellow adult education students at the University of Chicago and from a group of practicing adult educators at VPI.[2]

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[1] Fall of 1969, total "N" = 29.

[2] Staff members with whom the investigator is associated with at VPI.

The design of this substudy involved a drafting of the instrument by the guidelines resulting from the committee recommendations and obtaining consensus between two sets of instructions for utilizing a questionnaire. The questionnaire consisted of a copy of Litchfield's instructions, and a copy of the revised instrument, plus what was considered to be an appropriate cover letter of instructions. The respondents[1] were asked to compare the two sets of instructions and to evaluate the investigator's instrument with respect to purpose and instructions. The major concern expressed by members of the evaluating team revolved around the order of instructions and the wording of certain phrases.

The instrument instructions were rewritten in order to overcome the major criticisms. Following the rewrite, the instrument was discussed in detail with the chairman of this study's advisory committee who also authored the procedure which the instructions of the instrument under investigation attempted to parallel. This review resulted in a few additional changes in wording, the more significant changes being the "personalization" of the instructions, and some revisions of the categories in which activity items were to be placed. Again, the instrument was redrafted, using the directions provided by the study advisory committee, the pilot investigation, and the chairman's recommendations. After reviewing this "consensus" phase with the chairman of the study's advisory committee, it appeared that a consensus was apparent with the exception of one word in the definition of education - "sensitivity".

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[1] 14 Adult Education students at University of Chicago and 10 practicing adult educators at VPI.

Therefore, the second investigation under step five was to evaluate the instrument with representatives of the study population. To accomplish this objective, the instrument was duplicated, and 16 persons in and around the Blacksburg area were asked to serve as respondents.[1] Respondents were asked to complete the instrument and then respond to seven written questions:[2]

1. What is your interpretation of the purpose of this survey?
2. Are the instructions stated in words familiar to you? If not, identify those words or phrases which cause trouble.
3. Is the word "Education" defined to your satisfaction? If not, what would you consider to be an appropriate definition?
4. What does the word "sensitivity" (as used in the definition of education) mean to you?
5. Are the "directions" at the top of pages 1-13 helpful in responding to the instrument?
6. From your own experience, did you have any trouble categorizing the activity items into the four categories provided? If yes, an example of the problem would be most helpful.
7. General Comments — Any constructive comment about the survey format, the activity items, the categories or the instructions you care to make would be most helpful.

The investigator personally interviewed each respondent for reactions to the instrument. From written responses to the above questions and comments encountered during the interview, several respondents indicated trouble with the word "sensitivity". Therefore, the word was defined in practical terms to mean "relationship with the everyday world".[1] After reviewing the finer points of the instrument with the committee chairman and from another review of total comments received during the "consensus" phase, it appeared there was consensus among students of adult education, practitioners of adult education, the author of the instrument to which the current instrument purported to parallel, and representatives from the study population. This position appears to be strengthened by incorporating concerns from study population representatives. ~~Thus,~~ it was concluded that the instrument's instructions did parallel Litchfield's and, with reasonable assurance, the instructions would be clear to subjects selected for the study. Thus, to a degree, validity of instructions was obtained.

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[1] Respondents included warehouse clerks, secretaries, service station owners and attendents, domestic employees, county extension agents, and state extension specialists.

[2] Attached to the Survey form.

The sixth step focused on the question of instrument format. Although little concern had been expressed by responding individuals in step five, one question remained: "Would respondents categorize activity differently by a different method?" This question was deemed appropriate in view of later comparisons to be made.[2]

For a direction to this question, an experiment was designed to test the hypothesis that the correlation between methods is equal to or greater than .80[3]. In addition to testing the stated hypothesis, the experiment was designed to establish reliability (test-retest) on the format to be accepted as the final instrument for the study.

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[1] Interpreted to be Houle's and Litchfield's practical meaning.

[2] Comparing study subjects judgments with judgments previously rendered by educators.

[3] .80 was chosen as an arbitrary level since it represented an acceptable level from which to proceed and was a figure consistant with the reliability coefficients which Litchfield obtained with the LAS.

To test the hypothesis, four different formats which conceivably could be used were employed. These are identified and described as follows:

Method I	A report of Litchfield's complete instructions using the card sort technique. (Judging degree to which others might engage in the activities.)
Method II	Instructions and a listing of activity items by the survey form method according to a table of random numbers (the author).
Method III	Instructions and a listing of activity items by the survey form method as they appear in the LAS (the author).
Method IV	Instructions, Litchfield's cards, with Litchfield's instructions by which to manage the cards. (Instructions reworded so that the respondent would judge his own activities rather than others as in Method I above.)

The subsequent phase of the experiment was the selection of a group of respondents, accessible to the investigator, who were willing to participate in the experiment. Since it seemed desirable to have a minimum of 10 respondents per method, the investigator listed and numbered 48 names of persons[1] who would likely cooperate, as they came to mind. By using a random table, the 48 persons were equally divided into four groups.

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[1] Consisted mostly of employees at VPI who had who had not otherwise participated in other parts of this study. The employees would be categorized as professionals, paraprofessionals and classified. Most of the classified personnel, according to personnel records, were secretaries who could be further categorized as occupants of permanent positions, full-time without position appointments, and hourly employees.

The four groups, on an individual basis, were asked to respond to the instrument. Eight to twelve days later they were asked to respond to the same instrument a second time. The results of responses are expressed in Table 3.

TABLE 3

RESULTS OF TEST RETEST IN DETERMINING FEASIBILITY OF INSTRUMENT BY EXPERIMENT GROUP NUMBER, NUMBER OF SUBJECTS RESPONDING, PERCENT OF GROUP AGREEMENT BETWEEN TEST AND RELIABILITY COEFFICIENT BY METHOD

Group No.	Number in Group	Number Participating in Experiment	% Agreement by Method[a]	"r" Coefficient[b]
1	12	11	96.8	.965
2	12	10	95.2	.924
3	12	10	99.2	.918
4	12	11	97.6	.938
Total	48	42		

[a] A mean percentage of agreement. Range by individuals within groups was: Group I, High 98.6%, Low 81.3%, Group II, High 97.8%, Low 90.1%, Group III, High 96.4% Low 86.7%, Group IV, High 96.7%, Low 88.9%

[b] "r" coefficient determined by product moment formula where

$$"r" = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

, item group variance was pooled with "r" being calculated on total item mean score.

Thus, the experiment with methods provided the investigator with two observations pertinent to the study. The first was a reliability coefficient on the Litchfield method. As observed from the above table, "r" was determined to be .965;[1] therefore, the "card sorting" method was considered a reliable procedure from which to obtain subject responses.

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[1] Group 1. This coefficient was omitted from the Litchfield study.

However, the instructions of Method I were not useful to the purposes of the study and were, therefore, given little further consideration in testing the hypothesis under consideration.[1]

The remaining task of the experiment was to test the null hypothesis to assure that no difference in method would be observed at the .80 level of significance.

H_o: $P > .80$

H_1: $P < .80$

$\alpha = .0150$[2]

Reject H_o if "z" = -2.17

As a result of the statistical comparison of correlation coefficients by "z" score method, the following results were obtained.

Method Compared	"z" Value
2 vs 3	.487[a]
2 vs 4	1.6[a]
3 vs 4	8.34[a]

[a] Significant at .05 level of significance.

Thus, the hypothesis was acceptable as no difference in format at the .80 level.[3]

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[1] This finding, however, does add validity to the procedure used by Litchfield when determining the educational items for the LAS and consequently to the procedure under investigation.

[2] Significance level for test.

[3] The hypothesis, as stated is also significant at the .85 level of confidence but will not hold at the .90 level. At the .90 level, with a small "N" it is reasonable that at such a precise point, a different study population might provide different results. Determined from an interview with Dr. A. Sherdon, Dept. of Statistics, VPI, July, 1970.

By virtue of the results obtained from the experiment on methods, the hypothesis is acceptable to the purposes of this study. Since there is no difference in format design at this level, the decision to use Method II was based on the notion that the listing of activity items as they appeared in the LAS offered less complication in data processing than the other two formats. The card format (Method IV) was discarded because of the potential number of cards to be handled, e.g., 300 x 99.

The seventh and final step in instrumentation was again to use the complete packet of survey forms with a group of respondents, representative of the population from which the data were to be collected. To accomplish this task, the packet of instruments was assembled into two sections.[1] Section One contained an introductory letter and the LAS.[2] This section was to be completed before Section Two was distributed. Section Two also contained an introductory letter plus the CEMD and the Opinion Survey.

The packet was administered to a group of six persons enrolled in an Extension sponsored evaluation evening course at VPI. The investigator discussed the instrument package with the group for about two hours in order to bring out comments or recommendations with emphasis on the Opinion Survey. Emerging from the interview with virtually no recommendations, the packet of instruments was considered reliable, valid,and ready for field use.

Chapter III describes the adult learners selected for study and the method of data collection.

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[1] Copy included in Appendix A.

[2] This procedure offered the assurance that masking purpose of the LAS would be protected, a feature desired by its author.

CHAPTER III

SUBJECT SELECTION, DATA COLLECTION, AND SUBJECT DESCRIPTION

The subjects selected for study were adult[1] learners engaged in an activity publicly announced to be educational in nature. The decision to focus on subjects engaged in assorted educational activities rather than the adult population-at-large was made in recognition of the purposes of the study, the time required to complete the data collecting instrument; and Litchfield's support of the hypothesis that the extent of adult participation in educational activities will differ, to a significant extent, between those adults who are chosen because they are taking part in an educational activity at the time they respond to the instrument and those adults who were chosen on other bases.[2] Thus, from a comparison of participation scores obtained from two groups - Group A chosen because they were engaged in an educational activity at the time they responded to the LAS and Group B chosen on a basis other than Educational Source Identification--Litchfield concluded that:

> Extent of adult participation in educational activities does differ, to a significant extent, between those adults who are chosen because they are taking part in an educational activity at the time they responded to the instrument and those adults who were chosen on other bases. Further support was given to this conclusion by comparison of mean scores of employed members of Group A and B when controlled for sex and socio-economic class.[3]

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[1] For purposes of this study (and practical operations) an adult is defined as one who has reached that period in life which qualifies him (her) to assume certain civic and personal rights and responsibilities.

[2] Litchfield, "Nature and Pattern," pp. 53-76.

[3] Ibid., pp. 92-93.

Accepting Litchfield's conclusion, it appeared reasonable that even though "all adults partake of adult education to some extent,"[1] some participate in educational activities more than others. Therefore, the selection of study subjects was made after considering three alternatives.

The first consideration was to select study subjects from the work, home, or recreational environment. This alternative was deemed inappropriate because of the time required to secure such responses and because the subject, under such conditions, could not be assumed to be congruent with the definition of Adult Education used for this study.

The second consideration was to select study subjects from a combination of work, home, recreational, and educational environment. This alternative was discounted for reasons inherent in the first alternative.

The third consideration was to select study subjects from adult learners in attendance at an announced educational function. After considering the study criteria,[2] the instruments to be used for data collection,[3] the criteria required when using the LAS,[4] the length of time required to complete the survey forms,[5] and the premise that a subject participating in an activity removed an element of doubt concerning educational participation, the decision was made to select the study subjects by the latter alternative.

In the current chapter, a discussion of the theoretical and practical consideration followed in subject selection and data collection is the focus of attention. A latter portion of the chapter is concerned with a demographic description of subjects from whom data were obtained for testing the hypothesis of this study. The chapter concludes with selected comments concerning the population upon whose responses this study is based.

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[1] Ibid., p. 188.

[2] Theoretical starting points and definition of Adult Education.

[3] The instruments were in two sections, copies included in Appendix A.

[4] The investigator was granted permission to use the LAS by its author, so long as it be used as an independent instrument whereby its "masking" feature could be maintained.

[5] Approximately 45 minutes (determined from pilot studies).

Selection of Study Subjects

While it would have been desirable to include all adults engaged in all types of announced educational programs, no national, state, or local census or directory existed from which to begin at any level. Likewise, the resources supporting this study did not permit a study of such scope and magnitude.[1] Time and economics permitting, one might have concentrated on subjects patronizing a given institution over a period of time, but such a direction was considered contrary to the time element of this study. Therefore, to obtain adequate data from which to test the hypothesis of this study, the guiding decision was to select respondents from as many levels and types of adult educational activities as possible, during a given time period.

For the selection process, five general criteria were established as guidelines, some of which created undesirable limitations.

1. It was decided that subjects should be in attendance at some type of an announced educational function where participation could reasonably be regarded as voluntary.
2. The subjects should be selected from functions conducted during hours not generally devoted to work, sleep, or household tasks for that particular group.

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[1] According to the "Continuing Education Report" (The University of Chicago, Number One, p. 1, 1965), the major universities alone conducted 8,895 conferences enrolling 1,025,375 participants during the academic year 1962-63 (increasing at the rate of approximately 25% annually).

[2] In this setting, the participant is assumed to be consciously involved in an effort to improve skills, knowledge or sensitiveness.

3. Consideration was to be given to securing data from groups of individuals who might reasonably be representative of demographic characteristics prevalent to adult learners. The plan was to keep a running account of these characteristics as data were collected. In the later stage of subject selection, consideration was to be given to seeking out educational programs which had participants in under-represented demographic categories as they became apparent. While the plan was ideal, a reality imposed bv the criteria was the lack of adult educational programs during the summer months from which the desired selection could be made.[1]
4. The educational objectives of programs were to be considered. This consideration was based on the notion that different programs, from different geographic areas of the state "might attract participants who differed in varying ways among themselves."[2] The specific guideline here was to choose programs which might be classified as representative of the educational objectives inherent in the definition of adult education basic to the study. The desired ratio of respondents was equal in each category; however, in the process of locating sources, the ratio changed because of the types of programs found in existence.

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[1] Data from all respondents was collected during June and July, 1970. While the guidelines had its limiting aspects, it can be stated with a degree of accuracy "that adults who persue their educational endeavors during the summer months have a conscious intent to improve knowledge, skills, or sensitivity, through the educational use of leisure time."

[2] Litchfield, "Nature and Pattern," pp. 55-56.

5. This fifth consideration was agreement of the selected institution, the program leader or teacher, and the participants to devote time as a group to filling out the survey forms. The limitation imposed by this guideline was securing permission from the program leaders or teachers of non-credit informal sessions to relinquish group time for completing the survey forms.[1]

Method of Data Collection

Following the guidelines established in the selection of study respondents, the investigation utilized six basic steps toward securing data.

1. From inquiries, conversations, and knowledge of adult education programs in Virginia, the investigator established contact with selected institutions by phone. The contact person was generally the administrator for adult programs sponsored by the institution. The investigator discussed the general nature of the study with the contact person, stating the types of groups desired for responses. Generally, if the institution had such programs underway, the investigator was put in contact with the teacher or program leader.
2. An interview appointment was established with the program leader or teacher to review the survey forms and to make a mutual decision on the question "Did the group under consideration meet the desired criteria?"[2] If the answer was affirmative, details as to when

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[1] This one limitation did not allow the investigator to reach several selected groups. One was a regional group of "blue collar" workers consisting of approximately 90 participants.

[2] One limitation to this criteria was the immediacy of the selection, for once the appointment was made, it became difficult to rule against a group as "not desirable study subjects". On one occasion it was obvious that the investigator was invited just to consume class time.

to administer the survey were considered and mutually agreed upon.

3. On the selected date, the investigator met with group participants to explain the nature of the study,[1] stating the general guidelines and time required to complete the survey and emphasizing the idea that responding to the survey was completely a voluntary act and not a test -- the only correct answer being the respondent's best judgment about his own activities. In return for this effort, the investigator agreed to discuss the study in more detail upon completion of the survey forms. As a result, the investigator spent between 30 and 45 additional minutes with all but three groups in discussing respondents questions which related to the study.

4. Upon securing voluntary participation, the survey forms were administered in two sections. Section One[2] contained an introductory letter and the Leisure Activity Survey. This section was completed and returned to the investigator before the second section was distributed.[3] Section Two was prefaced with a general introductory letter and contained the CEMD and the Opinion Survey instruments. Even though the directions for administering the survey instrument were self-explanatory,[4] the investigator personally administered the survey to all groups. To a degree, this procedure insured a commonality in explanation and interpretation of questions.

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[1] In all cases, the nature of the study was explained "concerned with leisure time." This was deemed necessary to protect the "masking" feature of the LAS.

[2] Copy included in Appendix A.

[3] Copy included in Appendix A.

[4] The refinement procedure, pretest, and pilot study, to a degree, insured that the directions for the survey forms were clear as explained in Chapter II.

5. After securing data, the investigator expressed appreciation to all who cooperated with the data collecting process. This was done by personal letter from the investigator to administrators and teachers within each institution and each program. In the letter to the program leaders or teachers, the investigator expressed appreciation for relinquishing program (or class) time to the efforts of research, and asked that his personal thanks be conveyed to all respondents.
6. The next step was to identify group responses by code and to assign an ID code to each subject within the group. The groups are identified in Table IV by permission of the group. Individuals are only identified in this study by an ID code assigned by the investigator. Although the primary purpose of coding was subject identification, the codes also served to facilitate the management of data for purposes of machine analyses.

The procedure of subject selection resulted in securing 302 responses to the survey instruments. From an inspection of respective responses, 14 responses were discarded because of incomplete data. Of the 14 unusable responses, 4 were incomplete for demographic data, 3 skipped a section of the LAS, 2 did not follow instructions for completing the CEMD, 3 did not complete the Opinion Survey and 2 completed only the first section which included the LAS. The responses considered usable represented 95.3% of those secured or 288 subject responses.

The description of the 288 study subjects in the following paragraphs resulted from a frequency count and percentage calculation of items retrieved from machine analyses of the demographic section of the LAS. One item, "Recency of participation in a formal educational activity" was obtained from responses to the "Opinion Survey".

Description of Study Respondents

Because several institutions from different sections of Virginia are represented by respondents included in this study, it was deemed advisable to describe the learners demographically. Table IV is an identification of respective groups and N responding to the survey forms according to institution affiliation. Table IV is followed by a resume description of respective groups included in the study. Tables V through XIV describe the learners statistically, in relationship to demographic characteristics for Virginia's 1960 adult population[1] and the 1965 NORC[2] national sample of adult education participants.

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[1] Even though the 1960 Census Report is outdated it was the latest official population census available at the time.

[2] National Opinion Research Center, the University of Chicago. Statistics taken from Johnstone and Rivera, Volunteers, pp. 71-86.

TABLE 4

STUDY POPULATION BY GROUPS AND INSTITUTIONS AFFILIATIONS

Group No.	Activity	Institution Affiliation	"N"
1	School & Community Relations	Lynchburg College	28
2	Sociology of Education	Lynchburg College	26
3	Physical Education	Lynchburg College	11
4	Business Research Seminar	Virginia Commonwealth University	17
5	Methods of Research	Virginia Commonwealth University	20
6	Dental Lab Clinic	Virginia Western Community College	6
7	Center Staff Training	Virginia Polytechnic Institute	10
8	Police Science	Tidewater Community College	16
9	Cooking Class	City of Chesapeake Extension	18
10	Bible Class	Gretna Baptist Church	9
11	Furniture Class	Virginia Beach Extension Unit	19
12	Furniture Class	Virginia Beach Extension Unit	14
13	Williamsburg Conservation	VPI&SU General Extension	26
14	Home Demonstration Advisory Board	Unaffiliated[a]	8
15	Staff Training	VPI&SU Extension Division	12
16	Drug Abuse	Radford College	37
17	Renan H. D. Club	Unaffiliated[a]	11
		TOTAL	288

[a] In reality, H.D. Advisory Boards and H.D. Clubs are generally affiliated with the Cooperative Extension Service.

Group Descriptions

The following resume of each group is provided to better acquaint the reader with the demographic characteristics of the individuals included in the above identified groups.

Groups Nos. 1, 2, & 3	Male and female public school teachers enrolled in teacher training for purposes of obtaining a higher degree, renewing teaching certification, or interest in the subject taught.
Group No. 4	A group of junior executives from the Richmond, Va., area engaged in a seminar session for the expressed purpose of exchanging ideas and gaining insights into business and industrial management.
Group No. 5	A group of nurses, Air Force personnel, and other young adults who were preparing to pursue advanced degrees in education or related fields at Virginia Commonwealth University. Respondents were classified as part-time students from the Richmond area.
Group No. 6	A small group of female respondents enrolled in a 2-year dental technician course at Virginia Western Community College in Roanoke, Va. Most of the young ladies were married and resided in the Roanoke County vicinity.
Group No. 7	A heterogeneous group of professional and non-professional adults employed by the Donaldson-Brown Center for Continuing Education on the campus of Virginia Polytechnic Institute. The group was involved in a regular staff-training session for the purpose of facilitating the operations of the Center.

Group No. 8	A group of men and women employed by the Portsmouth Police Department for traffic control and criminal investigation. The quarter session was sponsored by the Tidewater Community College in Nansemond County, Va.
Group No. 9	A group of women, young and old, who were representatives of organized Home Demonstration Clubs from the City of Chesapeake in attendance at a special-interest session (subject, cooking) sponsored by the City of Chesapeake Extension Unit.
Group No. 10	A group of elderly women - retirees, housewives and some employed on a full-time basis -- in attendance at a Circle Bible Study course sponsored by the Gretna Baptist Church. Most participants were residents in the rural community of about 500 people.
Groups No. 11 & 12	A group of men and women in attendance at a workshop session on refinishing furniture. Participants were residents of the Virginia Beach resort area. The group included housewives, retirees, military personnel and a few antique dealers. The session was sponsored by the Virginia Beach, VPI&SU, Extension Unit.
Group No. 13	A group of elementary school teachers assembled to study the practical aspects of incorporating soil, water and air conservation study units into the school curriculum. The session was sponsored by the VPI&SU Department of Agriculture Engineering, taught by VPI&SU Extension personnel and financed by the Association of Virginia Soil Conservation Districts. The sessions were conducted at the College of

	William and Mary in Williamsburg. Participants were residents of both large and small communities in the Tidewater section (east of Richmond, Va.).
Group No. 14	A group of ladies from a rural county (Pittsylvania, Va.) meeting for the purpose of designing the county's Home Demonstration Club program for the year. The session was sponsored by the Pittsylvania County VPI&SU Extension Unit.
Group No. 15	A group of VPI&SU Extension Unit personnel involved in an in-service training session on the use of management information in decision making. The session was sponsored by the VPI Extension Division.
Group No. 16	A group of men and women (of all ages, from various sections of Virginia, concerned with the education of youth) engaged in a conference on drug abuse sponsored by the State Department of Education. The conference utilized both staff and facilities at Radford College, Radford, Virginia.
Group No. 17	A group of rural women organized under the name of the Renan Home Demonstration Club. The stated purpose of the organization was to provide its members with latest information on subjects related to home economics. The organization is unaffiliated with an institution and is responsible for its own programs.

The following tables provide a statistical description of study respondents by age, sex, marital status, educational level, size of community in which the respondents reside, employment classification, income level, occupation, and spouse's occupation. On a percentage basis, the statistical distributions are compared with like demographic characteristics for Virginia's adults according to the 1960 Census and the NORC National Sample of Adult learners.

TABLE 5

A STATISTICAL COMPARISON OF STUDY SUBJECTS WITH NORC PARTICIPANTS AND VIRGINIA'S ADULT POPULATION BY AGE DISTRIBUTION[a]

Study Subjects			NORC Participants[d]	State[b] Distribution (%)
Age (yrs.)	"N"	Percent		
24 or less	48	16.6	15	7.2[c]
25 - 34	107	37.2	28	13.4
35 - 44	57	19.7	25	13.9
45 - 54	41	14.3	17	10.8
55 - 64	30	10.4	11	7.4
65 and over	5	1.8	6	7.2
TOTAL	288	100	101	100%

[a] Bureau of Census, U. S. Department of Commerce, U. S. Census of Population, 1960, Virginia, General Social and Economic Characteristics, Table 71 "Social and Economic Characteristics of the Population, by Metropolitan - Non-Metropolitan Residence, for the State, 1960," PC (1), 48 BC, Va., p. 48-177, and Johnston and Rivera, Volunteers, p. 73, Table 14.1.

[b] Virginia's Population according to 1960 census was 3,966, 949; estimated to increase about 500,000 by 1970. Most of the increase was expected to be in the young and middle age adult group. Adult population 2,376,201, 1960.

[c] 20-24 years of age.

[d] Percentage extrapolated from values reported in NORC study, p. 73, table 4.1. Basis of extrapolation was 50% of the age category; e.g., study subjects responded to age categories as presented above. NORC participants responded to categories of 20-29, 30-39, and so on. For reasons of comparison, NORC categories were equally divided and regrouped according to the classifications used in this study.

The majority of the respondents (53.8%) were under the age of 35, and 74% were under 45. Comparison of the distribution of respondents by ages tends to favor the young adult groupings, rather than the older group at the other end of the scale.[1] This trend is observed in state demographic characteristics as well as in the distribution of NORC participants. Johnstone reports that national participants are "on the average more than six years younger than the average American adult."[2]

TABLE VI
TABLE 6

A STATISTICAL COMPARISON OF STUDY SUBJECTS WITH NORC PARTICIPANTS AND VIRGINIA'S ADULT POPULATION ACCORDING TO SEX[a]

Study Subjects			NORC Participants	State[b] Distribution
	"N"	%		
Male	126	43.7	50	49.1
Female	162	56.3	50	50.9
TOTAL	288	100.0	100	100.0

[a] See footnote "a", Table V.

[b] 20 years and older.

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[1] Such a trend is not uncommon, because one prevailing notion is that, during this period of life, the yound adult is striving for "position" among his co-workers, and continuing education is one means of mobility.

[2] Johnstone and Rivera, Volunteers, p. 72.

More females (56%) than males (44%) were included among the total of 288 adults who were studied. Thus, when compared with the state distribution, it is observed that the female population is over represented by 5% and the male population is under-represented by approximately 6%. When compared with the NORC participants, the females are over-represented by 6% and the male subjects under-represented by 6%.

Men were slightly over-represented in the NORC study because there are more women than men in the adult population.

TABLE 7

A STATISTICAL COMPARISON OF STUDY SUBJECTS WITH NORC PARTICIPANTS AND VIRGINIA'S ADULT POPULATION ACCORDING TO MARITAL STATUS[a,b]

Study Subjects			NORC Participants	State Distribution
Categories	"N"	%		
Single	54	18.8	9	23
Married	213	73.9	83	66
Widowed	12	4.2	4	2
Separated	3	1.0	4[c]	7
Divorced	6	2.0		2
TOTAL	288	99.9	100	100.0

[a] Bureau of Census, U. S. Department of Commerce, U. S. Census of Population, 1960, Virginia General Population Characteristics, Table 18, "Marital Status by Color and Sex for the State, by Size and Place 1960, 1950, and 1940." PC (1) 48 B, Va., p. 48-39, and Johnstone and Rivera, Volunteers, p. 74, Table 14.1 (Cont.).

[b] 14 years and older.

[c] Separated and divorced categories combined in NORC study.

The majority (74%) of the study subjects were married. The distribution of study respondents compares favorably with both the distribution of adults in the state population and the NORC sample. It should be noted, however, that single adults are over-represented when compared with state population characteristics or NORC participants.

TABLE 8

A STATISTICAL COMPARISON OF STUDY SUBJECTS WITH NORC PARTICIPANTS AND VIRGINIA'S ADULT POPULATION ACCORDING TO LEVEL OF EDUCATION[a]

Study Subjects[b]			NORC Participants	State[c] Distribution
Educational Level	"N"	%		
No Schooling	..	..	0	2.7
Some Grade School	2	.7	1	23.3
Completed Grade School	2	.7	9	20.0
Some High School	11	3.8	15	17.7[d]
Completed High School	35	12.2	36	21.3
Some College	59	20.5	20	9.1[e]
Bachelor's Degree	116	40.3	11	8.6[f]
Master's Degree	58	20.1	7	..
Doctor's Degree	5	1.7	..	..

[a] U.S. Census of Population, 1960, Virginia, "Years of School Completed by Persons 25 Years Old and Over, by Color and Sex for the State, Urban and Rural, 1960 and 1950, and for the State, 1940", Table 47, p. 48 - 151, and Johnstone and Rivera, Volunteers, p. 76, Table 14.2 (Cont.).

[b] Median school years completed by study respondents estimated to be 15.2, using census classification. Median school years completed for state distribution is 9.9. Median school years completed for NORC participants was 12.2 years.

[c] Based on age groups of 25 years and older.

[d] Some high school includes 1-3 years.

[e] Some college includes 1-3 years.

[f] Census only provided a classification of 4 years or more, thus, including advanced years of higher education.

According to level of education, the study sample is out of proportion when compared with the state distribution and the NORC participants. In fact, from an analysis of Table 9, it is obvious that the study-sample median years of school completed is at the college level; whereas, the state population is at the lower high school level and the level of NORC participants is slightly above the high school level. It should be noted, however, that the comparison with state population is based on a time difference of 10 years. This observation brings into focus the belief that the differences in levels of education are not as great as the facts would indicate. In fact, it has been projected that the median school grades completed by Virginia's adults is around 13 years.[1]

TABLE 9

A STATISTICAL COMPARISON OF STUDY RESPONDENTS WITH NORC PARTICIPANTS AND VIRGINIA'S ADULT POPULATION ACCORDING TO SIZE OF COMMUNITY RESIDENCE[a]

Study Subjects[b]			NORC Participants	State Population[f]
Size of Community[c]	"N"	%		
Urbanized Areas[d]	132	45.8	39	39.4
Inner City	79	27.5	33	23.2
Rural[e]	73	25.4	29	37.4
No Response	4	1.3	..	..
TOTAL	288	100.0	101	100.0

[a] See reference cited in footnote "a" Table 5, p. 48-27, and Johnstone and Rivera, Volunteers, P. 77, Table 4.3.

[b] 18 years and older.

[c] Size of community regrouped for purposes of comparison with study populations by census definition.

[d] Includes urban fringes.

[e] Less than 2,500 population.

[f] An 8% error noted in census reported on total adult population percentage, based on total reporting.

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[1] Obtained from an interview with Dr. George T. Blume, Extension Sociologist, VPI.Extension Division, Blacksburg, Va.

Table IX shows that study respondents living in urbanized areas are slightly over-represented (6%). Inner city residents are over-represented according to state characteristics but under-represented according to NORC participants. The over-representation is at the expense of those residing in rural areas.

TABLE 10

A STATISTICAL COMPARISON OF STUDY RESPONDENTS WITH VIRGINIA'S ADULT POPULATION AND NORC PARTICIPANTS ACCORDING TO EMPLOYMENT STATUS[a]

Study Subjects			NORC Participants	State Distribution[c]
Employment Status	"N"	%		
No Response	1	.3	..	..
Work Full Time	186	64.6	62	43.7
Work Part Time	15	5.2	9	4.6
Student	27	9.4	1	9.9
Retired, unemployed homemakers, and others[b]	59	31.5	29	41.8
TOTAL	288	100	101	100.0

[a] See footnote "a", Table 9.

[b] Considered not to be in labor force.

[c] 20 years of age and over.

Table 10 provides an insight into the employment status of study respondents.[1] When comparing the statistics, the data are biased in favor of the respondents who work full time. Individuals classified as retired, housewives, unemployed, and others are under-represented. However, when comparing employment status of respondents with NORC participants, the two groups are similar with study respondents under-represented in the "part-time" category and over-represented in the "student" categories.

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[1] The data from the demographic section of the LAS were regrouped so that a comparison could be made with a comparable state distribution. From the state distribution, the 9.9% student category would appear to be high.

TABLE 11

A STATISTICAL COMPARISON OF STUDY RESPONDENTS WITH VIRGINIA'S ADULT POPULATION AND NORC PARTICIPANTS ACCORDING TO LEVEL OF FAMILY INCOME[a]

Study Subjects			NORC Participants	State Distribution
Income	"N"	%		
No response	5	1.7	..	..
Less than $1,999	17	5.9	6	17.3
$2,000 - $4,999	23	8.0	24	33.0
$5,000 - $8,999	86	29.9	36	32.3
$9,000 - $13,999	95	33.0	28	17.3[b]
$14,000 - $19,999	48	16.7	6	..
$20,000 - $29,999	11	3.8	..	..
$30,000 - $39,999	3	1.0	..	..
$40,000 - $49,999	..	..	..	..
$50,000 and above	..	..	..	..

[a] See reference cited in footnote "a" Table 8, "Income in 1959 of persons by family status, age, and sex, for the state..., 1960." Table 35, p. 48-36, and Johnstone and Rivera, Volunteers, p. 76, Table 14.2 (Cont.).

[b] Represents all $9,000 and above.

The mean family income of the study group was estimated[1] to be $10,000 "no responses" not included, and the range of income would suggest a normal distribution slightly skewed toward the higher income categories. It should be noted that upper income group representation from categories of $40,000 and above was not included in the study sample. State median family income for 1960 was $4,216. NORC participants had a median family income of $6,000.

TABLE 12

A STATISTICAL COMPARISON OF STUDY SUBJECTS WITH VIRGINIA'S ADULT POPULATION AND NORC PARTICIPANTS ACCORDING TO TYPES OF OCCUPATION[a]

Study Subjects			NORC Participants	State Distribution
"Your Occupation"	"N"	%		
No report	73	25.3		4
Professional	173	60.0	23	10
Farm workers	2	.7	2	6
Managers & Officials	11	3.8	12	10
Clerical workers	19	6.6	15	7
Sales personnel	7	2.4	8	7
Craftsmen	1	.3	18	20
Operators, skilled	..	..	10	19
Service workers	2	.7	10	5
Laborers	..	..	3	8
TOTAL	288	99.8	100	100

[a] See reference cited in footnote "a" Table 8, "Occupation of the Experienced Civilian Labor force by color, of the Employed by Race and Class of Worker,..., 1960," Table 122, p. 48-447, and Johnstone and Rivera, Volunteers, p. 75, Table 7.2 (b).

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[1] Estimate based on an average figure within each category, e.g. the 48 respondents in the $14,000 to $19,999 category were considered to have an average family income of $17,000.

The distribution of study subjects to a degree, included representation from all but two categories--"Laborers and Operative" with heavy representation in the professional categories. When compared with the state's distribution of like characteristics, the professional category is exceedingly large; whereas, the craft category is exceedingly small. Likewise, a wide discrepancy is noted in the professional category between study respondents and NORC participants. Other categories are under-represented to a large extent. Perhaps the 25% "No Reports" provided for a better distribution than shown by the statistics.

Because of the large percentage of "No Response" indicated in Table 8 and the large percentage of persons included in the "Married" categories of Table 7 a statistical comparison of spouse's occupation would appear inappropriate. However, for the benefit of the reader who would desire such a comparison, and for the benefit of those who have future use for the demographic section of the LAS, Table 13 is presented.

TABLE 13

A STATISTICAL DISTRIBUTION OF STUDY SUBJECTS
ACCORDING TO SPOUSE'S OCCUPATION[a]

Spouse's Occupation	"N"	%
No Response	120	41.6
Professional	97	33.6
Farms, etc.	10	3.5
Manager, etc.	10	3.5
Clerical	12	4.2
Sales	14	4.9
Craftsman	2	.7
Operative	16	5.6
Service	5	1.7
Laborers	2	.7
TOTAL	288	100.0

[a] No NORC comparison available.

TABLE 14

A STATISTICAL DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO RECENCY OF PARTICIPATION IN A FORMAL COURSE OF STUDY

Recency of Participation	"N"	%
Presently Participating	190	66.0
6 months ago	31	10.7
12 months ago	8	2.8
18 months ago	14	4.9
24 months ago	13	4.5
more than 24 months	32	11.1
TOTAL	288	100.0

As observed in Table 14, a majority of study respondents were presently participating in a formal course of study, however, with 44% indicating a time interval since last engaging in such an activity, perhaps the distribution is sufficient for purposes of the study. It is appropriate to note that, of the 288 respondents from the several different geographic regions represented, approximately 80% had engaged in some type of formal course of study during the past 12 months.

In collecting and analyzing the demographic data for this study, the investigator encountered limitations with the demographic section (Part 6) of the LAS. Study subjects raised questions about, or failed to respond to, items identified as: (1) size of community, (2) employment status, (3) occupation, and (4) spouse's occupation. The inadequacy of appropriate categories with which respondents could relate were believed to be the main areas of concern. For example, recent consolidations of towns, cities and counties in Virginia make the size of community classifications inadequate. Employment status is not inclusive of possible combinations of employment, e.g., work full time outside home plus part-time student; full-time student plus housewife. "Your employment" categories were found inadequate for the full-time housewife, also "Spouse's Occupation" categories were inadequate for the retired or deceased spouse.

The comparisons of study demographic data have been used here to describing study respondents in relationship to Virginia adult population and the NORC participants. Certain demographic data of concomitant variables will be used later in the analysis.

Conclusion

In considering the limitations imposed upon the study, considerable effort was made to obtain responses from a number of individuals engaged in a variety of educational programs conducted in Virginia during the summer of 1970. As detailed earlier in the chapter, the criteria for selection, the methods of data collection employed, and the season of the year did not permit the desired distribution of subjects. As indicated by the description of study respondents, the data are biased to the extent that only certain institutional or group activities are included in the study. The data are also biased in that certain demographic characteristics are represented to a greater or less extent than the distribution of like characteristics from the general adult population of Virginia and the National NORC sample of adult education participants.

Although there is some similarity between the demographic characteristics of study respondents , the general adult population within the Commonwealth of Virginia, and the NORC participants, the study sample can only be said to be composed of adult learners from selected institutions of adult education within the Commonwealth of Virginia.

Perhaps, however, the variety of institutions and groups represented warrent the conclusion that the data supplied by the selected study subject is adequate to test the hypotheses of this investigation.

CHAPTER IV

ANALYSIS OF DATA

Chapter IV is devoted to a discussion of the testing of the hypotheses. In presenting this chapter, Hypotheses I, II, and V are discussed under separate subtopics. Hypotheses III and IV are presented together because of their similarities of content. The respective discussions include a brief intorduction, a statement of the hypothesis, the methods by which data were scored, the statistical treatment of data, and the findings derived from the analysis. The chapter concludes with an analysis of concomitant variables.

Educational Concepts and Leisure Activities for Educational Purposes

A major purpose of this study was to test the association between the learner's concept of education and his use of leisure activities for educational purposes. As pointed out in Chapter I, the adult is a highly individualized and unique being with a variety of experiences, concepts and notions which he relates to the educational process. He has his own idea about what is education, and he seeks to satisfy his educational needs in his own way. It was hypothesized that the broader the learner's concept of education, the more likely he is to utilize leisure activities for educational purposes.

The data used to analyze and test Hypothesis I were provided by learners[1] when responding to the CEMD and the Opinion Survey. When responding to the CEMD, learners were provided eight tetrads of four statements each relating in some way to education. Each tetrad contained two statements relating to a narrow concept of education and two statements relating to a broad concept of education.[1] From the eight tetrads, each learner was asked to select the two statements which best described what he perceived education to be in a practical sense (not what he would like for it to be). The learner's choice of statements was considered to denote his concept of education.

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[1] The terms "learners," "study subjects," and respondents" are used interchangeably. The terms refer to those adults who responded to data collecting instruments used in the collection of data for testing the hypotheses of this study.

In scoring the CEMD for a total concept score, statements relating to a broad concept of education were given a weight of "8" and statements relating to a narrow concept were given a weight of "1". The statements were of the combinations: (1) all narrow; (2) one narrow and one broad; or (3) all broad. By this procedure, the tetrad scores possible were 2, 9, or 16. The eight tetrad scores were summed to provide each learner with a total concept score. Thus, the lowest possible score was 16 and the highest possible score was 128.[2] The distribution of learners' total concept scores are provided in Chart 1.

Data on the utilization of leisure activities for educational purposes were provided by the learner when responding to the degree categories (degree to which activities are [were] engaged in for educational purposes) of the Opinion Survey. In effect, the learner dichotomized between those activities which he utilized for educational purposes and those which he did not participate, or participated in for other than educational purposes.

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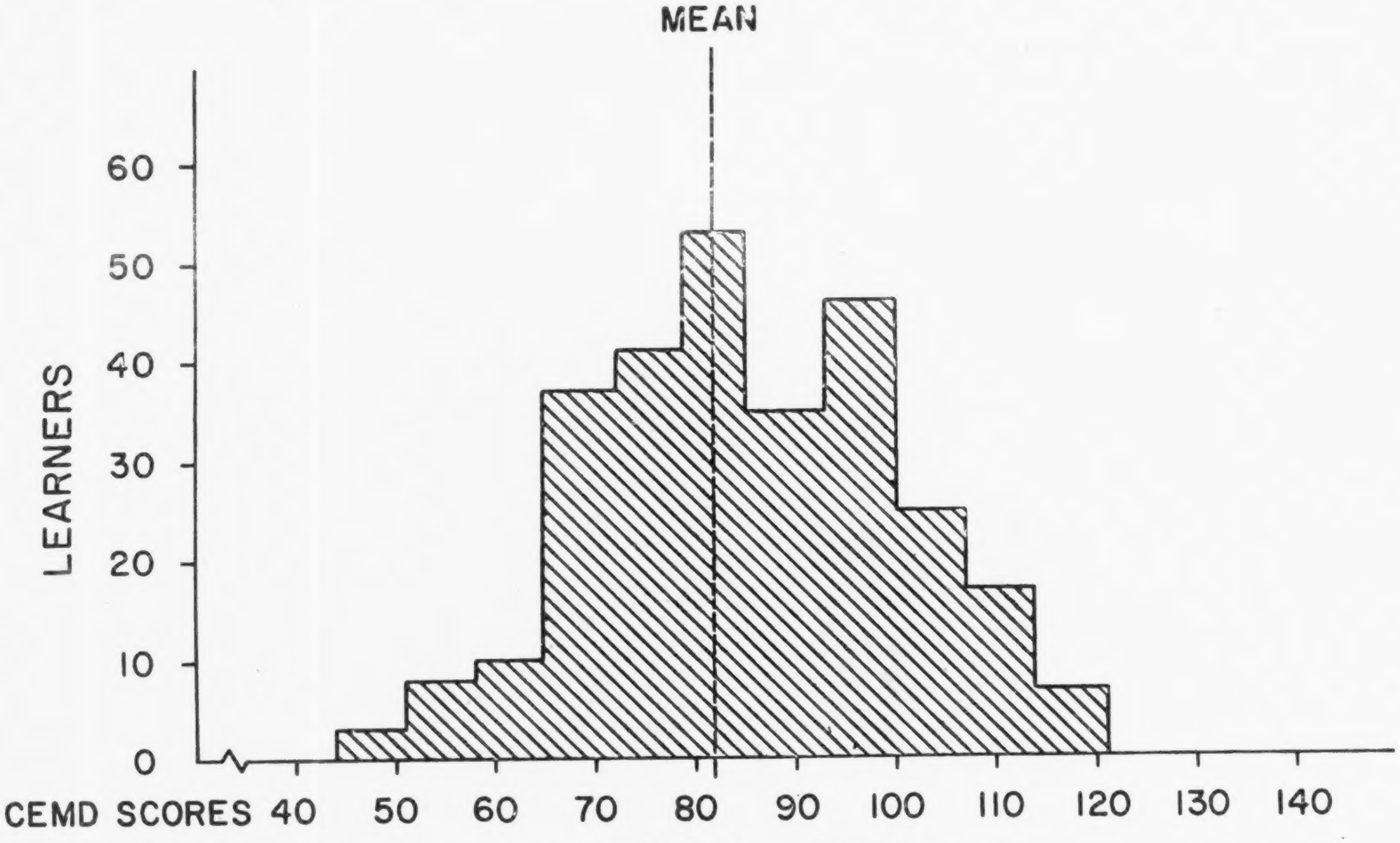
[1] Each statement was prejudged for breadth of educational concept.

[2] Refer to Appendix E, Table 27 for individual concept scores.

CHART I

A HISTOGRAM DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO CEMD SCORES[a]



MEAN = 81.96

MAXIMUM SCORE RANGE: 32-128 SKEW .057 KURTOSIS -.338

SCORE RANGE 44-121

[a] SEE PAGE 224 FOR METHOD OF DETERMINING CEMD SCORE.

The response was basically a "yes" - "no" classification. For purposes of determining which activities might be associated with a "yes" response, the Opinion Survey categories of "almost always" and "frequently" were combined and given an identification of "2". Likewise, the Opinion categories of "seldom/never" and "does not belong" were combined for a "no" classification and given an identification of "1". The identification values were used for combining categories and identifying "yes" - "no" classifications from the learner's responses.

By using the "yes" - "no" classifications as independent variables, an item frequency count of learner responses on the utilization of activities for educational purposes was obtained. The "yes" - "no" item classification also served to determine the CEMD mean score for those learners utilizing the activity for educational purposes as well as the CEMD mean score for the learners who utilized the activities for other purposes.

In effect, the management of data for the testing of Hypothesis I was one continuous variable (CEMD scores or Concept of Education) and a dichotomous variable (utilization of activities for educational purposes). The test for Hypothesis I was the point-biserial coefficient of correlation, "r_pb", by the formula.[1]

$$r_pb = \frac{\bar{X}._1 - \bar{X}._o}{SX} \sqrt{\frac{n_1 \quad n_o}{N(N-1)}}$$

---

[1] Gene V. Glass and Julian G. Stanley, Statistical Methods in Education and Psychology (Englewood Cliffs, New Jersey; Prentice-Hall, Inc., 1970), pp. 320-321. (The point-biserial correlation, as used in this study, is on item correlation between the continuous variable and the dichotomous variable.)

Where

$\bar{x}._1$ = Mean score on CEMD of those who utilize activities

$\bar{x}._o$ = Mean score on CEMD of those who did not utilize activities

S_x = Standard deviation of all subjects on CEMD

N_1 = Number participating

N_o = Number not participating

Thus, a point-biserial correlation coefficient was determined for each of the 99 activities used in this study. Table 15 provides a summary of data used in the test for Hypothesis I.

TABLE 15

A DISTRIBUTION OF LEARNERS ACCORDING TO UTILIZATION OF ACTIVITIES FOR EDUCATIONAL PURPOSES, INCLUDING CONCEPT SCORES,[a] CORRELATION COEFFICIENTS, AND P VALUE[b]

Tab.[c] ID	"Yes" Responses	CEMD Mean	"No" Responses	CEMD Mean	r_p[b]	P (df=286)[d]
1	142	82.65	146	81.30	-.0266	N/S
2	258	82.61	30	76.43	.1472	$<.05$
3	31	84.20	257	81.70	.0082	N/S
4	249	82.74	39	77.02	-.0532	N/S
5	67	82.76	221	81.72	-.0108	N/S
6	140	83.90	148	80.14	.2069	$<.01$
7	46	85.09	242	81.37	.2651	$<.01$
8	60	89.03	228	80.11	.1874	$<.01$
9	48	82.35	240	81.89	.1872	$<.01$
10	55	90.33	233	79.99	.2177	$<.01$
11	160	85.56	128	77.47	.1710	$<.01$
12	69	83.67	219	81.43	.0220	N/S
15	151	81.92	137	82.01	-.0889	N/S
16	13	84.38	275	81.85	.3757	$<.001$
17	89	82.54	199	81.71	.1431	$<.05$
18	150	84.65	138	79.05	.1076	N/S
19	117	83.19	171	81.13	.0067	N/S
20	22	86.95	266	81.55	.0729	N/S
21	199	83.61	89	78.29	.0413	N/S
22	207	83.73	81	77.44	.2289	$<.01$
23	116	84.91	172	79.98	.0990	N/S
24	80	86.00	208	80.41	.1187	$<.05$
25	206	83.76	82	77.46	.0595	N/S

TABLE 15 -- Continued

Tab. ID	"Yes" Responses	CEMD Mean	"No" Responses	CEMD Mean	r_{pb}	P (df=286)
26	9	82.89	279	81.94	.4181	$<.001$
27	13	85.46	275	81.80	.3904	$<.001$
28	211	83.38	77	78.09	.0218	N/S
29	90	86.39	198	79.95	.1461	$<.05$
30	53	84.28	235	81.44	.0377	N/S
31	39	88.88	249	80.88	.1498	$<.05$
32	20	90.90	268	81.30	.1210	N/S
33	78	84.74	210	80.93	.0547	N/S
34	32	86.22	256	81.43	.0562	N/S
35	8	88.63	280	81.78	.0612	N/S
38	118	84.22	170	80.40	.0628	N/S
39	37	89.59	251	80.84	.1489	$<.01$
40	78	86.81	210	80.17	.3205	$<.01$
41	123	84.96	165	79.72	.0967	N/S
42	221	83.21	67	77.85	.1869	$<.01$
43	112	86.13	176	79.32	.1483	$<.05$
44	92	85.70	196	80.21	.1175	N/S
45	67	84.43	221	81.22	.0491	N/S
46	172	82.66	116	80.93	-.0426	N/S
47	184	84.06	104	78.26	.0750	N/S
48	145	83.87	143	80.03	.0425	N/S
49	216	83.15	72	78.42	.0028	N/S
50	19	81.95	269	81.97	.0193	N/S
51	78	84.08	215	81.25	.0387	N/S
52	33	92.37	255	80.62	.2180	$<.01$
53	114	86.98	174	78.68	.2067	$<.01$
54	31	89.61	257	81.04	.1482	$<.01$
55	188	34.59	100	77.04	.1243	N/S
56	175	84.76	113	77.63	.1263	$<.05$
57	167	82.45	123	81.33	-.0581	N/S
58	110	83.52	178	81.01	.0122	N/S
59	126	85.94	162	78.87	.1548	$<.05$
60	57	87.47	231	80.61	.1300	$<.05$
61	67	86.42	221	80.62	.1203	N/S
62	79	81.66	209	82.08	-.0562	N/S
63	58	80.09	230	82.44	-.0973	N/S
64	60	81.33	228	82.13	-.0577	N/S
65	74	84.86	214	80.96	.0569	N/S
66	67	83.39	221	81.53	.0116	N/S
67	49	88.71	239	80.58	.1667	$<.01$
68	138	84.63	150	79.51	.0979	N/S
69	81	86.86	207	80.05	.1549	$<.05$
70	36	89.31	252	80.92	.1537	$<.05$
1	48	86.43	240	81.07	.0845	N/S
2	27	84.44	261	81.71	.2880	$<.01$
3	61	85.63	227	81.07	.2626	$<.01$
4	15	84.60	273	81.82	.0234	$<.01$
5	75	87.87	213	79.89	.1741	$<.01$
6	25	87.96	263	81.40	.0983	N/S
7	209	84.16	79	76.16	.1035	N/S

TABLE 15 -- Continued

Tab. ID	"Yes" Responses	CEMD Mean	"No" Responses	CEMD Mean	r_{pb}	P (df=286)
8	48	85.42	240	81.28	.2727	<.01
9	60	85.65	228	80.99	.0864	N/S
10	109	85.61	179	70.74	.2878	< .01
11	23	88.13	265	81.43	.3736	<.001
12	149	85.01	139	78.70	.1207	N/S
15	126	83.94	162	80.43	.1947	<.01
16	107	85.28	181	80.005	.1000	N/S
17	47	84.21	241	81.526	.0330	N/S
18	157	83.90	131	79.641	.0491	N/S
19	66	84.55	222	81.21	.0389	N/S
20	244	82.65	44	78.20	-.0786	N/S
21	53	86.92	235	80.85	.3156	< .001
22	99	82.676	189	81.59	.1323	<.05
23	99	88.33	189	78.63	.2377	<.001
24	132	84.78	156	79.58	.0921	N/S
25	84	82.50	204	81.74	.1451	<.05
26	52	81.96	236	81.96	-.0481	N/S
27	98	84.00	190	80.91	.0325	N/S
28	51	83.39	237	81.66	.2098	<.01
29	67	82.03	221	81.95	-.0370	N/S
30	49	88.71	239	80.58	.1667	<.01
31	108	83.34	180	81.14	.0029	N/S
32	111	82.47	177	81.65	.1162	N/S
33	36	84.83	252	81.56	.2729	<.001
34	140	84.50	148	79.57	.2341	<.001
35	193	84.01	95	77.82	.0758	N/S

[a] CEMD mean score = 81.76

[b] Coefficients determined by a program written by Joe Haenn for the 1130 computer at the University of Chicago.

[c] Tab. ID refers to Tab. number of items as listed in the Leisure Activity Survey.

[d] "p" with 286 df at 01 = .164; .05 = .125. Values extrapolated from Fisher and Yeatts published values of "p" at. 01 and .05 with 200 and 300 df. For accuracy, the established values are rather conservative.

In interpreting Table 15, several observations with examples are relevant. First, there are 44 of the 99 (more than the 5% expected by change) items with a significant relationship between breadth of educational concept and utilization of activities for educational purposes. When relating to the individual, this was interpreted to mean that learners identified with a broad concept of education utilized these activities for educational purposes. This interpretation is supported by the significant linear[1] relationship (correlation coefficient of .1667, $p < .01$) between CEMD scores and "yes" category of item use. Thus, as CEMD scores increase, so does the use of the activity for educational purposes. For example, 49 learners used item 67 ("Followed a course or class offered on TV or radio") for educational purposes. This group of learners had a CEMD mean score of 88.71 (well above the total group mean of 81.96). Thus, as the CEMD score increased, the association with use-of-activity for educational purposes was significant.

A second observation is the all negative (r_pb N/S) coefficients for 12 items. This finding was interpreted to mean that learners with both broad and narrow concepts of education utilized the activity for educational purposes. In other terms, this is interpreted to mean a grouping of learners with mixed concepts of education. For example, there were 172 learners provided a "yes" response to item 46 ("Read a practical non-fiction book or article on a subject such as gardening, raising children, or improving my home"). This group of learners had a CEMD score of 82.66 (close to group mean of 81.96). The non-significant minus (-) correlation coefficient, however, suggests that an increase in CEMD mean score is not significantly associated with a "yes" use of the activity for educational purposes. This inference was interpreted to mean that learners identified with both broad and narrow concepts utilized that activity for educational purposes.

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[1] The biserial coefficient of correlation of a dichotomous variable and a continuous variable is "an estimate of the corresponding product-moment coefficient for the two continuous variables". Allen L. Edwards, Statistical Methods for the Behavioral Sciences (Chicago: Holt, Rinehart, and Winston, 1966), p. 190.

The third observation is that learners with a narrow concept of education identified six items which were utilized for educational purposes. The linear relationship, however, were not significant at the .05 level of significance. Item 15 ("Went to a church service") was an example of this observation. Thus, the CEMD mean score for these items favored the group with a narrow concept score, indicating that these were items used by such learners for educational purposes. Item 15 is also an example of another observation. That is, the CEMD mean scores on five items for the "no" (r_pb, N/S), responses were higher than CEMD scores for "yes" responses. This was interpreted to mean that learners with broad concept scores tended not to utilize such activities for educational purposes.

Therefore, based on the analysis and findings from testing Hypothesis I, learners with a broad concept of education are likely to utilize certain or selected activities for educational purposes, more so than learners with a narrow concept of education. The hypothesis, however, can only be partially accepted, for some learners identified with a narrow concept of education tend to use selected activities for educational purposes. From the data of this study, however, the relationship can be attributed to chance.

Leisure Activities for Educational Purposes

One objective of this study was to compare the educators' judgments on the "probable" degree to which learners engage in leisure activities for educational purposes with the learners' judgments about the degree to which the same activities are actually utilized for educational purposes. Since educators and learners have encountered a variety of life experiences, some of which are different and since learners are known to differ in their extent of educational participation, it is reasonable that learners and educators might differ in their judgment about leisure time activities. Therefore, it was hypothesized that learners and educators differ significantly in their judgments as to the degree leisure activities are undertaken for educational purposes.

To test Hypothesis II, several comparisons of activity items were made. The purpose of such comparisons was to determine the significance of the relationship between judgments on activity items identified as educational activities by the two groups. For comparing the relationships, five Pearson product moment correlation coefficients[1] were calculated. The first coefficient was for the relationship of agreement concerning the 99 leisure activity items used in the Leisure Activity Survey.[2] The second coefficient was for the relationship of agreement on the LAS 46 educational items. The third, fourth, and fifth coefficients were for the relationship of agreement between learners and educators using different criterion to identify learners' educational activities. While the five analyses were not independent, each was of substantive interest in itself. Frequency data used to make these comparisons come from the Litchfield study[3] and the Opinion Survey of the current study.

Because of the difference in number of study subjects between the two studies,[4] and because the data (educators' judgments) were reported in frequency of responses, it was necessary to normalize item scores. This was accomplished by treating each of the 99 activity items independently, weighting item frequencies in a like manner and calculating an item mean score. Thus

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[1] Also referred to as the "Pearson 'r' coefficient."

[2] The 99 activities were considered first for reasons of assessing the quantitative relationship between the set of activities from which the educational activities were identified.

[3] Data on the educators' judgment were taken from Litchfield, "Nature and Pattern," Table 34, pp. 233-239. (Included in Appendix F, Table 28).

[4] Litchfield's N = 16; Study Subjects N = 288.

$$\frac{\text{Number of responses x category wt.}}{N} = \underline{\text{Item mean score}}$$

As indicated earlier, the first correlation coefficient was to determine the relationship of agreement between groups for the 99 activities.[2] The purpose of this correlation was to determine the relationship between the "probable" degree to which a set of activities is engaged in for educational purposes, as judged by educators, with the actual degree to which the same set of activities was utilized for educational purposes by the learner.[3] By the Pearson "r" procedure, this coefficient was determined to be .159 (df = 97, N.S.)[4] at the .05 level of significance. The null hypothesis of no relationship between mean scores of educators and those of learners on the 99 items cannot be rejected. This finding was interpreted to mean that educators have perceived a set of leisure activities for educational purposes differently than learners utilize them.

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[1] Weights of 4; 3; 2; 1; were assigned to the categories of "almost always"; "frequently"; "seldom/never"; and "clearly does not belong"; respectively for both instruments.

[2] Refer to Tables 28 and 29 in Appendices for raw data from which item mean scores were determined.

[3] By first considering the total set of activities, the investigator was permitted to review and compare respective activities for similarities and differences in ranking between the two groups.

[4] The formula used for the Pearson "r" was: $"r" = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$

Note: Coefficients determined on 1130 computer utilizing a program, written by Josh Yiedel. Program described in "Statistical Program, Mainlines, and Subroutines, and Functions" software manual located in the Educational Statistical Library, Judd Hall.

TABLE 16

A COMPARISON OF ACTIVITY MEAN SCORES BETWEEN LEARNERS AND EDUCATORS FOR 46 LEISURE ACTIVITY SURVEY EDUCATIONAL ITEMS

Tab. ID	Definition	Educators' Item Mean	Learners' Item Mean
2	Reading a newspaper	3.13	3.28
4	Watching news on TV or listening to news on the radio	2.06	3.19
6	Watching an informational program on TV, such as a panel discussion, quiz show, or travelogue	3.25	2.53
8	Listening to a record of classical music on a record player	2.94	2.00
10	Listening to classical music on radio or TV	2.94	1.99
11	Listening to an informational program on radio, such as a personal interview, consumer tips, or a discussion show	3.44	2.64
18	Attending a meeting of some fraternal, social or recreational group	3.00	2.55
19	Attending a meeting of a religious group	2.75	2.30
20	Going to a settlement house or a neighborhood center	2.88	1.74
21	Reading one or more magazines dealing with a special interest or hobby	3.69	2.82
22	Reading a technical, professional, trade, or farm magazine	3.94	2.96
23	Reading a literary or cultural magazine, such as "The Saturday Review," "Harper's," or "Atlantic Monthly"	3.88	2.41
24	Reading a journal of opinion, such as "Encounter," "Nation," or "Yale Review"	3.81	2.20
25	Reading a popular general magazine, such as "Look," "Life," or "Reader's Digest"	2.94	2.86
28	Reading a current event periodical such as "Time," "Newsweek," or "U. S. News and World Report"	3.56	2.94
31	Taking a private lesson	4.00	1.89
40	Building up a special collection of something such as stamps, antiques, books, or pictures	2.88	2.12
41	Learning how to carry out a do-it-yourself project	3.43	2.38

TABLE 16 -- Continued

Tab. ID	Definition	Educators' Item Mean	Learners' Item Mean
42	Reading a number of books on subject I wanted to learn more about	4.00	2.97
43	Reading a classic fiction book, such as a western, mystery, adventure, or science fiction	3.44	2.38
44	Reading poetry	3.19	2.26
46	Reading a practical non-fiction book, or article on a subject, such as gardening, raising children or improving my home	3.81	2.65
47	Reading a non-fiction book on a general subject, such as psychology, art, economics, history, biography, or science	3.81	2.80
48	Reading a religious or other inspirational book or article	3.31	2.56
49	Reading a book dealing with my trade, business or profession	3.88	3.10
52	Going to see an art film	3.06	1.85
53	Going to a public lecture	3.38	2.36
55	Going to a Conference, an institute, or a workshop	3.88	2.84
56	Taking a trip especially to see some historical or other important landmark	3.38	2.71
57	Attending a group meeting, organized to discuss or learn about things	3.88	2.66
59	Visiting an art exhibition, art gallery, or museum	3.13	2.44
60	Attending the theater to see a play or a musical show	3.06	2.08
67	Following a course or class offered on TV or radio	3.75	1.95
69	Doing some kind of nature study, such as birdwatching or going for a hike in the country	2.88	2.13
3	Going to an "Auto Show," "Better Homes Show," or other type of display	2.88	2.05
6	Registering for a class on TV or radio	3.94	1.80
7	Taking a course at a university, a college, or a public school	3.94	3.11
8	Taking a correspondence or home study course	4.00	2.00

Table 16 -- Continued

Tab. ID	Definition	Educators' Item Mean	Learners' Item Mean
9	Taking a course given by some community organization like the "Y", Red Cross, or library	3.75	2.03
10	Taking a course offered by my employer	3.25	2.38
12	Attending a large meeting or convention	3.00	2.53
20	Consulting an encyclopedia, gazetteer, world almanac, or other reference source	3.88	3.23
21	Listening to a teaching record, such as one which teaches a foreign language	4.00	2.05
32	Trying out a new recipe or experimenting with unusual in food or drink	3.06	2.23
34	Thinking about an abstruse question such as, what is truth? Beauty? or the place of man in the scheme of things?	3.75	2.48
35	Browsing in a bookstore or library	2.94	2.76

The second coefficient was between the activity items identified as educational in the Leisure Activity Survey with like items from the Opinion Survey. Table 16 identified the LAS educational items by "Tab. No." and includes item mean scores as determined from the two populations.

The Pearson "r" correlation coefficient for the 46 items in Table 16 was determined to be .241 (df = 44, N.S.). This finding showed that the null hypothesis of no relationship between the mean scores of educators and those of learners on the 46 items used cannot be rejected. From observation of the data educators believed 44 of their 46 educational items to be more educational than utilized by the learner. Thus, learners and educators do not agree quantitatively on those items which educators have used to measure the extent of the learner's participation.

The third, fourth, and fifth observations compared, by means of correlation coefficients, those items identified study respondents which they engaged in for educational purposes with the educators' judgment about the educativeness of the items.

Three methods were used to identify learners' assessment of the educational use of an item:

(1) The first method was to use Litchfield's criteria for determining educational items thusly:

> "If one quarter (4) or more judges said the activity was "almost always" educational, then it was categorized as almost always educational unless one half (8) or more judges said the activity was frequently educational in which case it was categorized as frequently educational, unless one quarter or more judges (4) said the activity was "seldom or never" educational, or two or more judges said the activity did not clearly belong in any of the other categories, in which case the activity was considered not to be educational."[1]

In operational terms, these instructions were interpreted to mean: not less than 72 responses to the "almost always" category unless 144 (+) responses selected the "frequently" category, unless 72 (+) respondents selected the "seldom or never" category unless 36 (+) selected the "does not belong" category.[2]

From observing item frequency responses from study subjects by the above criteria, those items identified as educational and their frequency of engagement on them are shown in Table 17.[3]

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[1] Litchfield, "Nature and Pattern," p. 32.

[2] See Appendix F for complete listing of frequency responses.

[3] Litchfield only considers the first two categories, "almost always" and "frequently" to include educational items.

TABLE 17

LEISURE ACTIVITIES ENGAGED IN FOR EDUCATIONAL PURPOSES BY RESPONDENTS ACCORDING TO LITCHFIELD'S METHOD FOR SELECTING EDUCATIONAL ITEMS

LAS Tab No.	Item	Number of Respondents Identifying			
		Almost Always	Frequently	Seldom /Never	Clearly Does Not Belong
2	Read a newspaper	115	143	26	4
4	Watched news on TV or listened to news on the radio	98	151	35	4
28	Read a current-events periodical, such as "Time," "Newsweek," or "U. S. News and World Report"	76	135	62	15
49	Read a book dealing with my trade, business, or profession	116	100	57	15
7	Took a course at a university, a college, or a public school	137	72	54	25
20	Consulted an encyclopedia, gazetteer, world almanac, or other reference source	116	128	37	7
21*	Read one or more magazines dealing with a special interest or hobby	48	151	77	12
22	Read a technical, professional, trade, or farm magazine	83	124	68	13
25*	Read a popular magazine such as "Look," "Life," "Saturday Evening Post," or "Reader's Digest	46	160	77	5
55*	Went to a conference, an institute, or a workshop	76	112	79	21
35*	Browsed in a bookstore or library	43	150	78	17

*Because of N distribution, item is considered marginal.

NOTE: The Items in Table 17 were determined by first eliminating those items which included responses in excess of 36 in the "clearly does not belong" category and second by eliminating those items which included responses in excess of 72 responses to the "seldom or never" category. As observed in the table, 4 items (21; 25; 55; and 35) are considered marginal. These items , however, are included here and in subsequent analyses because, by visual inspection, the distribution of responses suggest that they are more closely associated with the activities here under consideration.

Table 18 is a duplication of the items included in the previous table, but expanded to provide a comparison of the items by mean scores for statistical comparison.

TABLE 18

COMPARISON BETWEEN ITEMS IDENTIFIED BY RESPONDENTS TO BE EDUCATIONAL AND EDUCATORS' JUDGMENTS ABOUT LIKE ITEMS USING ITEM MEAN SCORES

Tab. NO.	ITEM	Educators' Means	Learners' Means
2	Read a newspaper	3.13	3.28
4	Watched news on TV or listened to news on the radio	2.06	3.19
28	Read a current-events periodical, such as "Time," "Newsweek," or "U. S. News and World Report"	3.56	2.94
49	Read a book dealing with my trade, business, or profession	3.88	3.10
7	Took a course at a university, a college, or a public school	3.94	3.11
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	3.88	3.23
21	Read one or more magazines dealing with a special interest or hobby	3.69	2.82
22	Read a technical, professional, trade, or farm magazine	3.94	2.96
25	Read a popular magazine such as "look," "Life, "Saturday Evening Post," or "Reader's Digest"	2.94	2.86
55	Went to a conference, an institute, or a workshop	3.88	2.84
35	Browsed in a bookstore or library	2.94	2.76

For the 11 items in the above table, the correlation coefficient by the Pearson "r" procedure was determined to be .333 (df = 9, N.S.). The null hypothesis of no relationship between the mean scores of educators and those of learners on the 11 items used cannot be rejected. Therefore, by the Litchfield method of determining educational items, educators judged the items to be more educational (items 2 & 4 are exceptions) than utilized by the learner.

The second method for determining learners' educational items was by the use of mean scores.[1] Thus, by assigning weights of 4; 3; 2; and 1 to the respective categories, it is reasonable that items with a mean score of 3.0 or better could be considered as educational items. The following table provides a listing of those items which, in the opinion of investigators, were determined to satisfy this criteria.

TABLE 19

AN IDENTIFICATION OF RESPONDENTS' EDUCATIONAL ITEMS BY USE OF MEAN SCORES AS COMPARED WITH LIKE ITEM MEAN SCORES AS PERCEIVED BY EDUCATORS

TAB. NO.	Items	Mean Scores Educators	Mean Scores Respondents
2	Read a newspaper	3.13	3.28
4	Watched news on TV or listened to news on the radio	2.06	3.19
25*	Read a popular magazine such as "Look," "Life," "Saturday Evening Post," or "Reader's Digest"	2.94	2.86
28*	Read a current events periodical, such as "Time," "Newsweek," or "U. S. News and World Report"	3.56	2.94
42*	Read a number of books on a subject I wanted to learn more about	4.00	2.97
47*	Read a non-fiction book on a general subject, such as psychology, art, economics, history, biography, or science	3.81	2.80
49	Read a book dealing with my trade, business, or profession	3.88	3.10
55*	Went to a conference, an institute, or a workshop	3.88	2.84
7	Took a course at a university, a college or a public school	3.94	3.11
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	3.88	3.23

* Items 25, 28, 42 and 55 considered to be marginal.

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[1] Mean Scores of 3.0 or better from either group.

By the Pearson "r" procedure, the correlation coefficient between item mean scores for the ten items in Table 19 was determined to be -.277 (df = 8, N.S.). The null hypothesis of no difference between mean scores of educators and those of learners on the 10 items used cannot be rejected. This finding was interpreted to mean that educators and learners differ as to the degree to which activities are engaged in for educational purposes.

Tables 18 and 19 also serve to identify those activities identified by both educators and learners to be educational items. Eliminating these items with a mean score below 3.0,[1] there are four activities (#'s 2, 49, 7, and 20) which could be placed in the educational category by the criteria used. The Pearson "r" correlation coefficient between mean educator and learners mean scores was determined to be -.940 (df = 3, $p < .02$). The direction of the coefficient indicated an almost perfect inverse relationship for activity items which both learners and educators agreed were educational items. This finding was likewise interpreted to mean a difference between educators and learners about four activities which both groups believed to be educational.

The third method used to determine the extent that learners undertake certain activities for educational purposes was the frequency to which the activities were utilized for educational purposes. Thus, the emphasis of this method was a majority (N = 145 or more) of learners' responses to the "almost always" or "frequently" categories of the Opinion Survey. That is, if more than 145 learners indicated that the item was "almost always" or "frequently" engaged in for educational purposes, then the item was considered an educational item. The following table presents activities and number of responses which satisfy the criteria of this method.

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[1] By use of weights, these items with a mean score of less than 3.0 could be interpreted to mean that the activities were seldom or never engaged in for educational purposes or they were utilized for other than educational purposes.

TABLE 20

LEISURE ACTIVITY ITEMS IDENTIFIED BY RESPONDENTS AS ENGAGED IN FOR EDUCATIONAL PURPOSES ACCORDING TO FREQUENCY OF RESPONSES

Tab. No.	Items	Number of Total Responses[a]
2	Read a newspaper	258
4	Watched news on TV or listened to news on the radio	249
11	Listened to an informational program on radio, such as a personal interview, consumer tips, or a discussion show	160
15	Went to a church service	151
18	Went to a meeting of some business, professional, civic, political, or labor group	150
21	Read one or more magazines dealing with a special interest or hobby	199
22	Read a technical, professional, trade, or farm magazine	146
25	Read a popular general magazine, such as "Look," "Life," or "Reader's Digest"	185
28	Read a current events periodical, such as "Time," "Newsweek," or "U. S. News and World Report"	211
42	Read a number of books on a subject I wanted to learn more about	221
46	Read a practical non-fiction book or article on a subject, such as gardening, raising children, or improving my home	172
47	Read a non-fiction book on a general subject, such as psychology, art, economics, history, biography, or science	184
48	Read a religious or other inspirational book or article	146
49	Read a book dealing with my trade, business or profession	216
55	Went to a conference, an institute, or a workshop	188
56	Went for a trip especially to see some historical or other important landmark	175
57	Went to a meeting of a group organized to discuss or learn about things	165
7	Took a course at a university, a college, or a public school	209
12	Attended a large meeting or convention	149

TABLE 20 (cont.)

Tab. No.	Items	Number of Total Responses
18	Taught something to a friend or a member of the family	157
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	244
35	Browsed in a bookstore or library	193
Question-able[b]		
1	Chatted or visited with friends, relatives or neighbors	142
6	Watched an informational program on TV, such as a panel discussion, quiz show, or a travelogue	140
68	Made a speech before a group	138
34	Thought about an abstruse question such as, what is truth? beauty? or the place of man in the scheme of things?	140

---

[a] Only "almost always" and "frequently" categories considered.

[b] The four items considered questionable by the method under consideration were included since they approached the "majority" rule, and from an inspection of all item responses, they were more closely allied with this grouping than a grouping of non-educational items by the same method.

Table 21 is a duplication of items included in Table 20, but expanded to provide a comparison of items by mean scores for statistical comparison.

TABLE 21

EDUCATIVENESS OF SELECTED LEISURE ACTIVITIES AS PERCEIVED BY RESPONDENTS' AND EDUCATORS' COMPARED BY MEAN SCORES

Tab. NO.	Item	Mean Scores Educators	Learners
2	Read a newspaper	3.13	3.28
4	Watched news on TV or listened to news on the radio	2.06	3.19
11	Listened to an informational program on radio, such as a personal interview, consumer tips, or a discussion show	3.44	2.64
15	Went to a church service	2.69	2.52
18	Went to a meeting of some business, professional, civic, political, or labor group	3.00	2.55
21	Read one or more magazines dealing with a special interest or hobby	3.69	2.82
22	Read a technical, professional, trade, or farm magazine	3.94	2.96
25	Read a popular general magazine, such as "Look," "Life," or "Reader's Digest"	2.94	2.86
28	Read a current events periodical, such as "Time," "Newsweek," or "U. S. News and World Report"	3.56	2.94
42	Read a number of books on a subject I wanted to learn more about	4.00	2.97
46	Read a practical non-fiction book or article on a subject, such as gardening, raising children, or improving my home	3.81	2.65
47	Read a non-fiction book on a general subject, such as psychology, art, economics, history, biography, or science	3.81	2.80
48	Read a religious or other inspirational book or article	3.13	2.52
49	Read a book dealing with my trade, business or profession	3.88	3.10
55	Went to a conference, an institute, or a workshop	3.88	2.84
56	Went for a trip especially to see some historical or other important landmark	3.38	2.71

TABLE 21 (cont.)

Tab. No.	Item	Mean Scores Educators	Learners
57	Went to a meeting of a group organized to discuss or learn about things	3.88	2.66
7	Took a course at a university, a college, or a public school	3.94	3.11
12	Attended a large meeting or convention	3.00	2.53
18	Taught something to a friend or a member of the family	2.56	2.55
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	3.88	3.23
35	Browsed in a bookstore or library	2.94	2.76
Questionable			
1	Chatted or visited with friends, relatives or neighbors	2.00	2.46
6	Watched an informational program on TV, such as a panel discussion, quiz show, or a travelogue	2.50	2.47
68	Made a speech before a group	3.75	2.48
34	Thought about an abstruse question such as, what is truth? beauty? or the place of man in the scheme of things?	3.25	2.53

By the Pearson "r" procedure, the correlation coefficient between mean scores for the 26 items from Table 21 was determined to be .362 (df = 24, N.S.). The null hypothesis of no relationship between mean scores of educators and those of learners on the 26 items used cannot be rejected. This finding was interpreted to mean that educators and learners differ as to the degree the 26 activities are utilized for educational purposes. This observation is supported by an inspection of the data. This conclusion is valid even when the four questionable items are removed ("r" - .297, df = 20, N/S). Even though it has been established that educators and learners differ in their judgments on the qualitative (degree) aspect of the activities, the two groups are not so far removed from one another on the activities identified. For example, from an inspection of Tables 16 and 20, it is noted that of the learners 26 educational items, all but 4 are included in the educators' list.

Therefore, based on the empirical evidence derived from subjecting the data of Hypothesis II to statistical analysis, it is concluded that, by the methods used, learners and educators differ in their judgment on the degree to which leisure activities are undertaken for educational purposes and the number of activities utilized for educational purposes. Therefore Hypothesis II is acceptable. Technically, however, it can only be stated that learners and educators differ in their judgment as to the degree leisure activities are undertaken for educational purposes.

The methods employed to test the second hypothesis have also served to identify these items which learners consider to be educational items. Those items identified by the majority method are used in subsequent analysis.

Educational Participation According to the Learners and the Educators

The purpose of this phase of the study was to examine the learners' extent of educational participation according to their own views and those expressed and used by educators. Two hypotheses were tested in connection with this purpose. In a third hypothesis, it was suggested that the educators' judgment of an individual's total participation in educational activities will differ significantly from learners' judgments of that participation. In turn, Hypothesis IV stated that the relative positions of a group of individuals in a ranking of educational participation will vary significantly in terms of these two forms of scoring.

The first part of the subsequent discussion is devoted to the testing and analysis of Hypothesis III. The second part is concerned with Hypothesis IV.

Hypothesis III

To analyze and test Hypothesis III, it was necessary to first measure the learners' extent of educational participation according to the educators judgments. This was accomplished by scoring the Leisure Activity Survey according to Litchfield's scoring procedure. This procedure was reviewed in depth in Chapter II. The second measure of educational participation was in terms of the learner. Thus, the data collecting instruments of this study provided the learner with the opportunity to (1) identify his own educational activities (Opinion Survey), (2) indicate the educativeness or degree to which the activity is (was) engaged in for educational purposes (Opinion

Survey), and (3) the frequency to which he engaged in that activity (LAS). The procedure then was to assemble and score the learner s' data so as to measure the extent of participation by the same three dimensions as used in scoring the Leisure Activity Survey. These items were determined as follows:

1. Number of educational items - The learners' educational items were determined by the "majority" method presented in the analysis of Hypothesis II (Table 21). The number of educational activities engaged in was determined by counting and adding together the number of the 26 activities in which the learner spent some time. The learners' response was taken from the time interval frequency scale of the LAS.

2. Degree of Educativeness of the Educational Item - the notion behind this dimension of the scoring procedure was that recognition be given to the differential participatory behavior of those persons who participate extensively in a few activities in comparison with those persons who participate a little in many activities judged to be less educational.

   To allow this dimension to be reflected in an easily calculated score, differential weights were assigned to those activities which respondents determined to be more educational in relationship to those activities considered less educational. To provide maximum variation among the activities, weights of 4 (high), 3, 2, and 1 (low) were assigned to items based on frequency of responses to the combined categories of "almost always" and "frequently" from the Opinion Survey. The activities clustering together constituted a grouping for weighting purposes.[1] Thus, under this procedure seven activity items were assigned a weight of 4; seven items were assigned a weight of 3; eight items were assigned a weight of 2; and four items were assigned a weight of 1.[2]

3. Amount of time spent in educational activities - The amount of time spent in each of the educational activities was derived from the responses to the Leisure Activity Survey time interval scale, where the numeric value of 1 not represented at all, and each successive number represented a greater amount of participation. The numeric value of 6 represented the greatest degree of participation. Thus, following the above guidelines, it was reasonable that the data could be used to produce a quantitative score on extent of educational participation as perceived by the learner, and a score comparable to that used by educators to measure the same behavior. Consequently, by the alternate scoring procedure[3] for extent of educational parti-

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[1] In so far as possible, the procedure used is a parallel to that reported by Litchfield, "Nature and Pattern," p. 33-34. Litchfield's procedure is reviewed in Chapter II, pp. 8-10. The dividing point between groups was a subjective judgment by the investigator based on the distribution of responses, the nature of the activity and the procedure reported in the Litchfield study.

[2] The procedure and item weights are further discussed and identified in Appendix G.

[3] Also referred to in this study as ALAS (Alternate Leisure Activity Scoring procedure).

cipation, the total low score is 69 and the high score is 414, determined as follows:

High Score

No. of Items		Educativeness Wt.		Time Interval Wt.		
7	x	4	x	6	=	168
7	x	3	x	6	=	126
8	x	2	x	6	=	96
4	x	1	x	6	=	24
				Total		414

Low Score

7	x	4	x	1	=	28
7	x	3	x	1	=	21
8	x	2	x	1	=	16
4	x	1	x	1	=	4
				Total		69

By the above criteria, the Leisure Activity Survey was rescored for each respondent. The individuals extent of participation scores are compared in Table 22.[1] Chart 2 following the table presents a graphic comparison of the scores.

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[1] Comparisons are made in terms of the "machine" method. That is, time interval weights of 1-6 were used rather than the 0-5 weighting scheme which Litchfield used for hand scoring the LAS.

TABLE 22

LEARNERS EXTENT OF EDUCATIONAL PARTICIPATION SCORES (MACHINE METHOD)
AS DETERMINED BY THE LITCHFIELD METHOD AND THE
ALTERNATE METHOD SUGGESTED BY THIS STUDY

Subject ID.	46 LAS Items	26 ALAS Items	Subject ID	LAS Items	26 ALAS Items
001	290	235	174	249	194
002	272	217	175	308	255
003	251	204	176	375	200
004	216	243	200	334	264
006	322	267	201	264	201
007	229	204	202	314	246
008	316	256	203	356	261
009	314	235	204	324	261
010	257	214	205	393	288
011	369	283	206	259	179
015	387	284	207	391	298
016	321	247	208	248	222
017	325	244	209	283	222
018	235	178	210	380	293
019	315	256	211	356	295
020	354	302	212	200	170
021	348	276	213	301	233
022	386	306	214	341	254
023	494	350	215	329	239
024	251	213	225	295	233
025	329	254	226	259	198
026	405	309	227	267	210
027	284	223	228	255	186
028	269	237	229	240	192
029	322	253	230	358	231
030	376	273	231	327	256
031	264	191	232	257	212
032	394	296	233	339	273
033	325	272	234	344	248
034	258	205	235	240	195
035	329	272	236	245	199
036	270	230	237	253	191
037	293	225	238	287	209
038	326	278	239	394	298
039	459	314	240	366	271
040	326	234	241	290	209
041	308	258	242	309	223
042	257	219	250	472	292
050	280	224	253	356	194
051	275	220	254	344	265
052	226	187	225	264	198
053	244	208	256	188	154
054	307	268	257	188	157
055	291	235	258	267	218
056	351	252	259	207	176

TABLE 22 (Cont.)

Subject ID	46 LAS Items	26 ALAS Items	Subject ID	46 LAS Items	26 ALAS Items
057	217	182	260	330	243
058	284	231	265	253	189
059	366	293	267	210	158
060	646	409	268	251	191
061	332	202	270	337	252
062	313	268	271	353	279
063	283	247	272	209	169
064	330	256	273	340	255
065	397	339	274	285	210
066	349	305	275	298	249
067	361	277	276	271	234
069	392	301	277	237	181
070	343	261	278	288	230
071	332	285	279	298	228
072	361	276	280	277	200
073	298	256	281	213	175
074	295	237	282	231	175
075	299	227	283	356	272
076	222	165	284	280	213
078	241	206	285	271	222
079	193	146	288	288	229
080	346	255	289	308	214
081	222	184	290	251	198
082	302	246	291	324	233
083	348	259	294	380	280
084	366	277	297	305	231
085	384	296	298	204	158
086	368	300	299	251	196
087	330	278	300	268	208
088	285	233	301	251	209
089	476	337	302	302	209
090	252	220	303	293	213
091	357	228	304	259	198
092	225	195	305	295	217
093	348	302	306	311	226
094	404	290	310	228	160
095	345	278	311	168	146
096	297	250	312	233	205
100	360	288	313	388	245
101	281	219	314	242	190
102	335	293	315	386	302
103	379	298	325	285	243
104	407	282	326	316	232
105	275	206	327	441	347
107	353	286	328	304	260
108	396	288	329	316	284
109	285	213	330	349	253
110	362	266	332	327	268
111	362	288	333	423	310
112	349	296	334	263	223

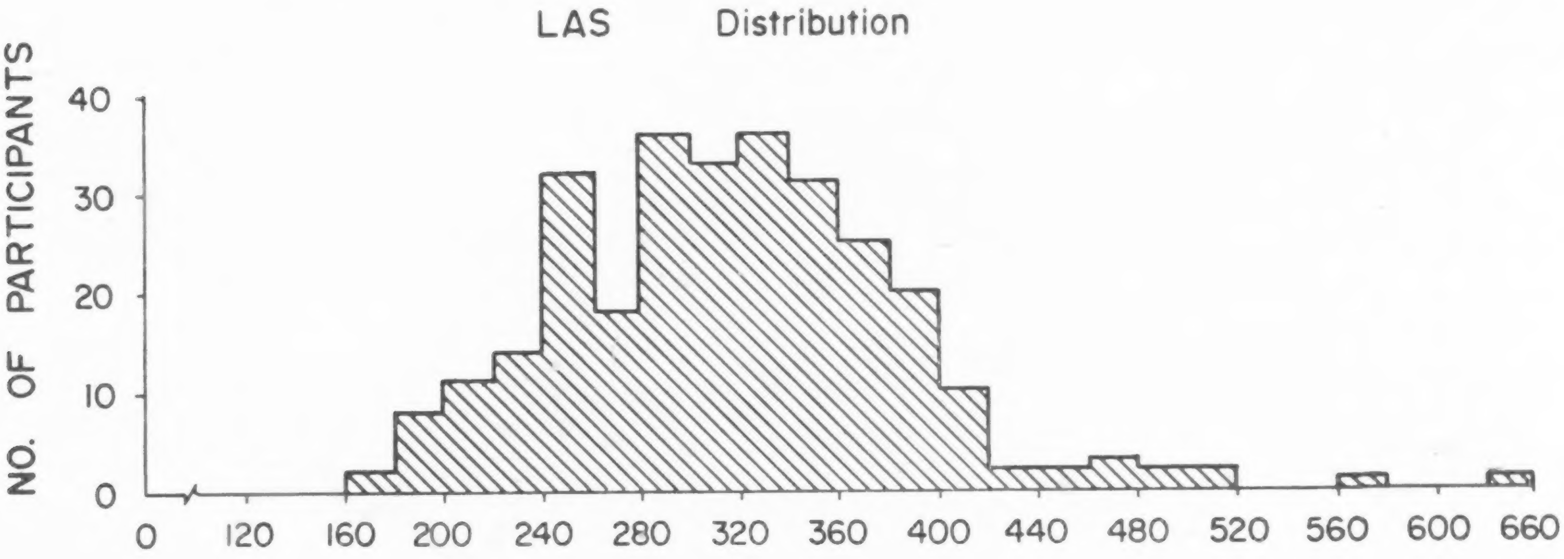
TABLE 22 (Cont.)

Subject ID	46 LAS Items	26 ALAS Items	Subject ID	46 LAS Items	26 ALAS Items
113	405	321	335	263	203
114	349	300	336	332	265
115	353	285	337	308	269
116	237	178	338	306	261
117	318	233	339	381	297
118	379	280	340	352	302
125	340	262	341	362	264
126	323	242	342	402	293
127	301	230	343	372	286
128	300	245	344	322	265
129	296	241	345	288	235
130	335	260	346	327	277
131	389	282	347	472	354
132	295	202	348	307	239
133	275	225	349	393	299
134	356	272	350	401	327
135	335	251	351	377	293
136	368	263	352	516	356
137	409	291	353	399	310
138	277	231	354	374	286
139	334	247	355	391	295
140	361	284	356	338	277
141	300	250	357	303	247
142	350	281	358	323	278
143	374	316	359	287	230
144	198	181	360	306	241
145	333	253	361	436	310
147	308	239	362	369	276
148	296	218	375	236	177
149	427	331	376	289	219
150	242	200	377	401	280
151	321	234	378	229	196
155	284	222	379	248	207
156	579	336	380	295	235
157	187	151	381	294	223
158	330	248	382	[illegible]	278
159	217	169	383	[illegible]	172
160	214	163	384	337	258
161	361	268	400	296	154
162	247	187	401	336	244
165	240	180	402	396	286
166	209	169	403	224	186
167	357	283	404	265	217
168	330	261	405	255	213
169	304	230	406	185	151
170	330	247	407	188	129
171	172	143	408	346	253
172	375	302	409	258	204
173	486	351	410	345	270

LAS Mean = 314
ALAS Mean = 243

CHART 2

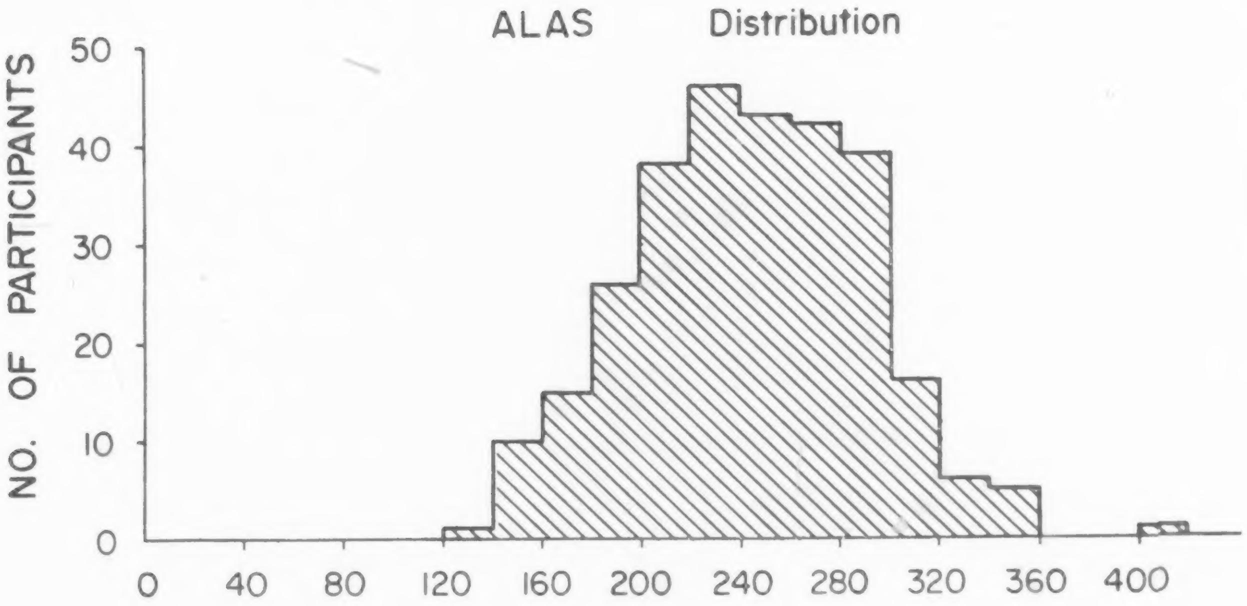
DISTRIBUTION OF LEARNERS EXTENT OF EDUCATIONAL PARTICIPATION SCORES BY THE LAS AND ALAS



MEAN = 314

MAXIMUM SCORE RANGE : 123-738 SKEW .706 KURTOSIS 2.126

SCORE RANGE 168 - 646



MEAN = 243

MAXIMUM SCORE RANGE : 69-414 SKEW .098 KURTOSIS -.027

SCORE RANGE 129-409

By the Pearson produce "r" procedure, the correlation coefficient between the 288 pairs of scores was determined to be .931 ($P < .001$). This finding suggests an almost perfect linear relationship between the two methods of determining an individual's participation score correlation.

Because the correlation between participation scores was extremely high, the investigator sought to apply the alternate method of scoring extent of participation to a different group of learners. Thus, as an addendum to this part of the study, the investigator secured 1,045 responses to the LAS from Paul D. Burgess, who had recently utilized the Leisure Activity Survey in his research project.[1]

The Burgess' data were scored by both the LAS method and the ALAS method.[2] Chart 3 is a histogram distribution of the 1,045 scores by the LAS method and the ALAS method. By the Pearson "r" procedure the correlation between the two sets of scores by the two methods for the 1,045 responses was determined to be .933 ($p < .001$). This finding was interpreted to mean that the linear relationship between the two methods of scoring was almost a perfect relationship.

Therefore, based on the relationship between scores by the two methods of scoring for 1,333 learners, Hypothesis III is rejected. The conclusion was that learners' extent of participation score are not significantly different by the two methods.

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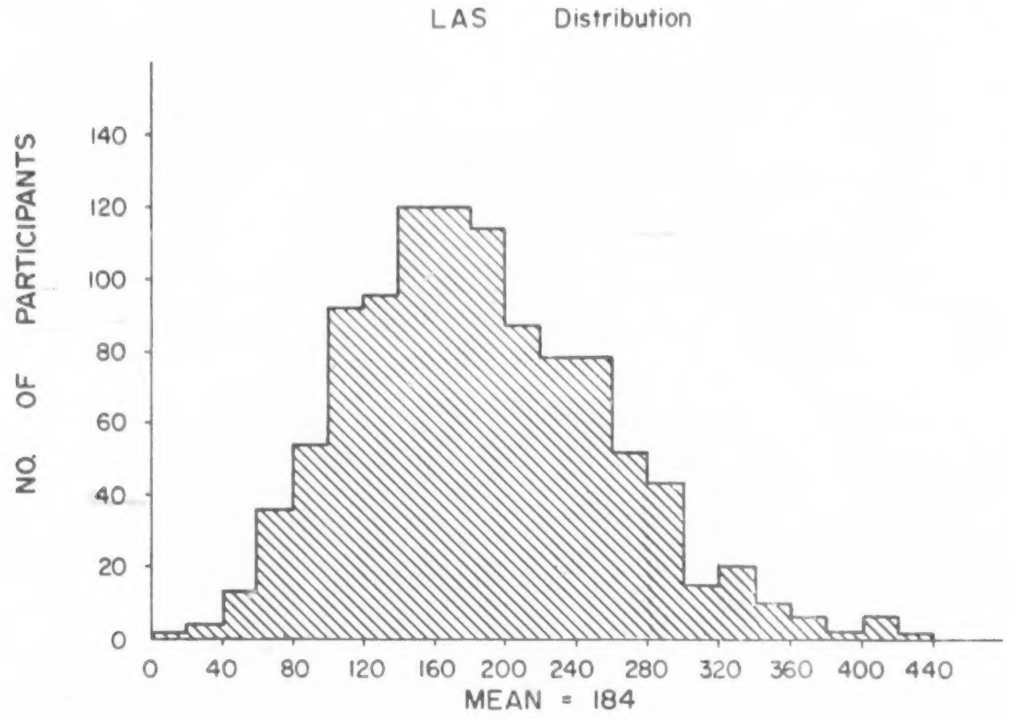
[1] Burgess, "Educational Orientations". Reference is made to the study by Burgess for a demographic description of this group of learners. Responses for the Burgess study, however, were secured from residents of the St. Louis metropolitan area. The 1,045 responses are used in this study with permission from Mr. Burgess, letter dated March 22, 1971.

[2] Scores from the Burgess study are not comparable to the scores of this study because of the difference in weights used for the LAS time interval scale. Thus, Burgess used a scale of 0-5 instead of 1-6. For purposes of scoring the Burgess data, the ALAS method utilized the 0-5 weighting procedure.

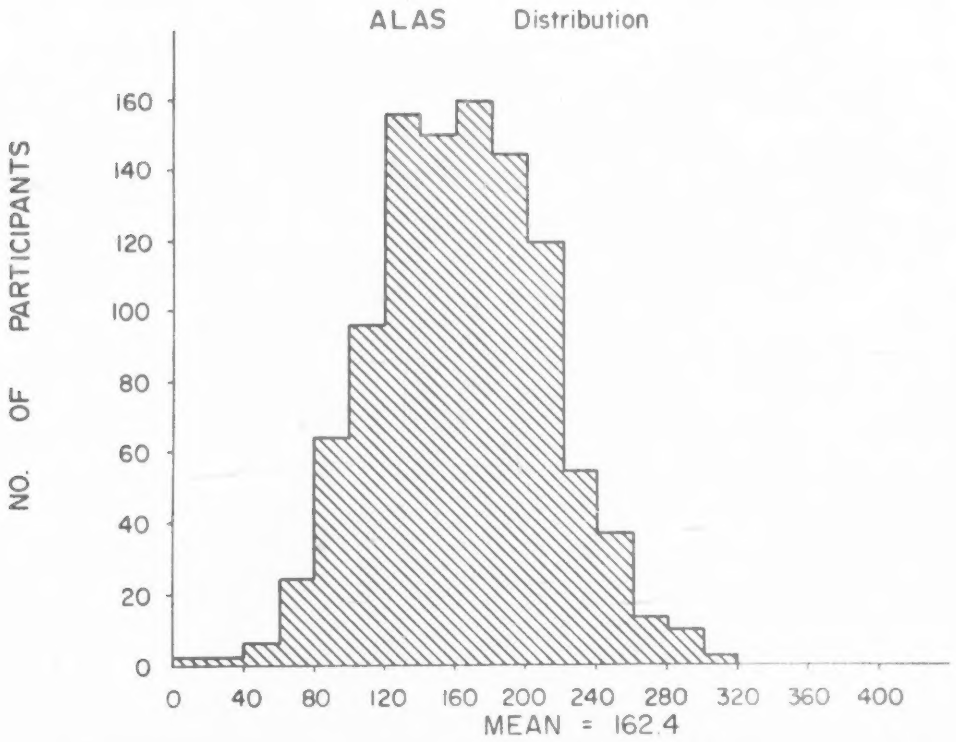
CHART 3

A HISTOGRAM DISTRIBUTION OF PARTICIPATION SCORES BY THE LAS METHOD OF SCORING FOR 1,045 RESPONDENTS FROM THE STUDY BY BURGESS



MAXIMUM SCORE RANGE : 0 - 615 SKEW .479 KURTOSIS .065
SCORE RANGE 6 - 420

A HISTOGRAM DISTRIBUTION OF PARTICIPATION SCORES BY THE ALAS METHOD OF SCORING FOR 1,045 RESPONDENTS FROM THE STUDY BY BURGESS



MAXIMUM SCORE RANGE 0 - 345 SKEW .111 KURTOSIS -.203
SCORE RANGE 17 - 310

Another observation resulting from the analysis of Hypothesis III concerns the distribution of learners' scores by the two methods. As observed in Chart 2 , the distribution of learners' participation scores by the LAS method can be classified as a mesokurtic curve with some bimodal tendency. In using the LAS, some researchers[1] have encountered the bimodal tendency. This has been explained as a function of the weighting procedure for the "educativeness" of the activities. Netherton demonstrated this observation by removing the weights and rescoring the data.[2] His finding was that the bimodality tendency disappeared. Using Netherton's observation as a guide, the LAS was rescored without the educativeness weights.[3] The bimodal effect disappeared and the distribution of scores assumed the characteristics of a normal leptokurtic curve.[4]

In Chart 4, LAS and ALAS scores from the current study are plotted on arithmetic normal cumulative probability paper.[5] The purpose of the chart is a test of the normal distribution of scores by the two methods of measuring. The test is based on the principle that any normal cumulative distribution will become a straight line when plotted. Therefore, given any frequency distribtuion, the test for normality can be readily applied by plotting the cumulative percent total against the agrument, i.e., the quantities in the population.

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[1] Litchfield, "Nature and Pattern"; Netherton, "Participation and Innovations."

[2] Netherton, "Participation and Innovations."

[3] Refer to Appendix H , Chart 8 for a graphic distribution (histogram) of scores by the LAS method with "educativeness" weights removed.

[4] Downie and Heath, Basic Methods, p. 26.

[5] Also includes scores from the Burgess study (note Key).

> If the resultant curve is not close to being a straight line, then it can be concluded that the distribution is not normal. Since the comparison is between a finite number of observations and an infinite mathematical model,some deviation from the straight line can be expected. [Amount of deviation allowed was not expressed] The probability that these samples come from a normal population depends upon the magnitude of these deviations. [1]

In observing the deviations of accumulative percentage by the two methods of measurement, line A (LAS method) is interpreted to mean that scores by the method do not exhibit the characteristics of the probability theory. This observation is quite apparent at the upper limits of the scale (beginning with the score interval of 400). Line B, however, appears to exhibit the probability characteristics to a more acceptable degree. However, a slight deviation can be observed at either the upper or lower limits of the scale depending on the chosen point from which the straight line is drawn. Because of the histogram interval distribution (Chart 2) this investigator chose to exhibit the deviation at the upper scale limit.

Based on this analysis, the probability test is interpreted to mean that the distribution of respondent scores by the ALAS method more closely conform to the characteristics of a normal distribution than by the LAS method. This conclusion is more valid when applying the same test to the LAS responses from the Burgess study (Chart 4, C & D).

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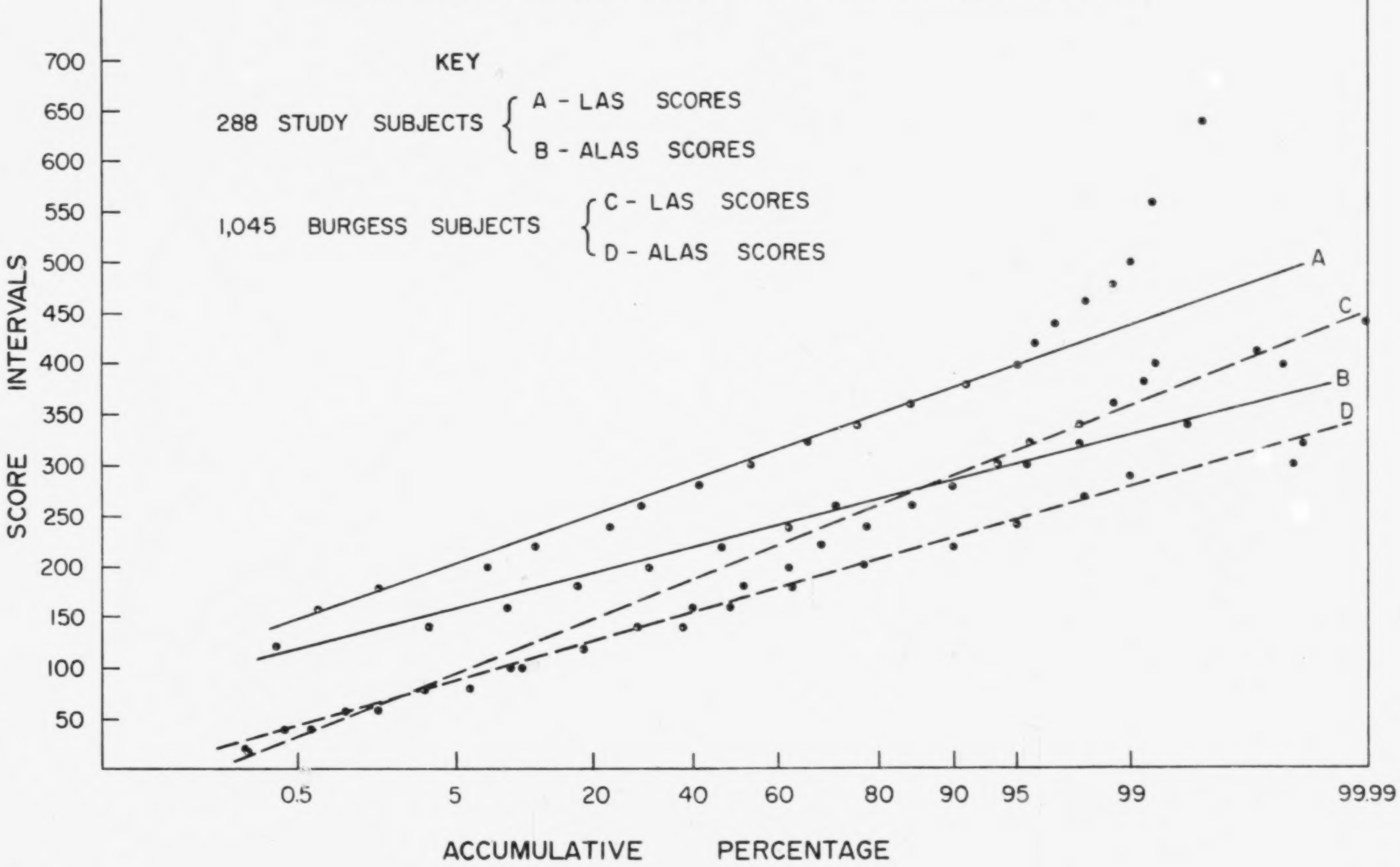
[1] John H. Perry, ed., Chemical Business Handbook (New York: McGraw-Hill Book Company, Inc., 1954) p. 20-13.

CHART 4

A DISTRIBUTION OF LAS AND ALAS SCORES ACCORDING TO AN ARITHMETIC PROBABILITY OF NORMALITY FOR LEARNERS FROM BOTH THE CURRENT STUDY AND THE BURGESS STUDY



As observed in Chart 3 the distribution of LAS scores, according to Burgess, by the LAS method was a fairly normal distribution with some deviation at the upper end of the scale. The responses were then rescored using the ALAS method and grouped according to the score intervals as presented in the ALAS distribution of Chart 3.

In testing the normality of the distribution by the straight line accumlative percentage method, the 1,045 scores as derived from the LAS method provide an observation which is interpreted to be a normal distribution. It is noted, however, that some deviation from the straight line is prevalent at the scale intervals of 80-300, and a more noticeable deviation seen at the 400 level.

In total, Chart 4 represents a test of normality for the distribution of the participation scores by the ALAS method. Although the number of score interval plotted points are less than by the LAS method, the total accumulative percentage is about the same. In a comparison of the two tests, the distribution of scores as determined by the ALAS method appear to deviate less from the straight line theory than by the LAS method. Therefore, it is concluded that the ALAS method of scoring provides a more normal distribution of learners participation scores than by the LAS method advocated by Litchfield.

Hypothesis IV

Hypothesis IV stated that the relative positions of a group of individuals in a ranking of educational participation will vary significantly in terms of these two forms of scoring. The two forms of scoring referred to the LAS and the ALAS methods of measurement used in this study.

A good test for Hypothesis IV was, perhaps, the correlation coefficient between ranked sets of scores. This could have been achieved by using Spearman's rank-order correlation coefficient (Rho) or Kendall's TAU correlations between ranks. However, "the rank-order correlation uses and provides more information than chi dquare, but itself may not use all the information available because it relates sets of ranks, not scores".[1] Also, "Rho is a good substitute for 'r' and is almost useless when N is large, for by the time that all data are ranked a Pearnson 'r' could have been computed."[2] Therefore, since "r" considered variance between scores rather than rank items, it was considered to be a more sensitive and an appropriate test for Hypothesis IV.

By the Pearson product moment procedure "r" was determined to be .931[3] (df = 286, $p < .001$), which is highly significant. This finding was interpreted to mean that the rank position of an individual by one measure is relatively the same by the corresponding measure in a sample with an "N" equal to 288 and 1,045. Therefore, Hypothesis IV is rejected.

Although the hypothesis was tested and rejected, the investigator was curious as to how much fluctation actually existed with the 288 subject scores when "r" accounted for 86.67% of the variance.

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[1] Jeanne S. Phillips and Richard F. Thompson, Statistics for Nurses (New York: The Macmillian Co., 1967), p. 399.

[2] Downie and Heath, Basic Methods, pp. 207-208.

[3] The Pearson "r" was .933 for the Burgess study.

Since individual scores had previously been punched on individual IBM cards with subject identification, the scores were manually ranked for the two methods. The observation from the ranking was that individual scores changed from a minimum of no difference in position (7) to a maximum of 60 positions (2). For example, subject No. 230 held position No. 121 by the LAS machine method and position No. 61 by the ALAS method. Subject No. 256 held position No. 5 by the LAS method and the same position by the ALAS method. Subject No. 230 had a score of 358 by the LAS (slightly above the mean) and a score of 231 by the ALAS (slightly below the mean). Subject No. 256 had low scores by both Methods (LAS - 188; ALAS - 154). The average change in positions was 15.2 for the 288 socre sets ranked. Thus, by the different methods of measurement, the individual's rank position changed very little when considering the size (N = 288) of the population.

Leisure Participation and Educational Participation

The purpose of Hypothesis V was to compare the learners' extent of leisure time participation with his extent of educational participation. Since adult education participation in this study is a leisure time activity or is conceived to take place during hours not normally devoted to work, sleep, or household tasks, it was reasonable that the learners' extent of leisure participation is significantly related to his extent of educational participation as judged by either educators or learners.

To analyze Hypothesis V, two comparisons were made of the relationship between the learners' extent of leisure participation and his extent of educational participation. The comparisons were made in terms of correlation coefficients, with tests of significance at the .05 level.

For the comparisons, the learners' extent of leisure participation was determined by adding the weights assigned to the time interval scale, to which he responded, for the 99 Leisure Activity Survey items.[1] By this procedure, the minimum leisure activity participation score was 99 (1 x 99) and the maximum was 594 (6 x 99). Chart 8 (histogram) provides a distribution of learners' scores for total leisure activity participation.

The learners' extent of educational participation was determined by the LAS method for educators and by the ALAS method for learners. When comparing the learners' extent of leisure participation with his extent of educational participation as determined by educators (LAS), the Pearson "r" was determined to be .870 (df = 286, $p < .001$).[2] When comparing the learners' extent of leisure participation with extent of educational participation as determined by the learners', the Pearson "r" was determined to be .825 (df = 286, $p < .001$).[3]

These findings were interpreted to mean a high linear relationship between the learners' extent of leisure participation and the extent of his educational participation. In fact, from a knowledge of one, it is possible to predict the other with a high degree of accuracy. Therefore, Hypothesis V is accepted.

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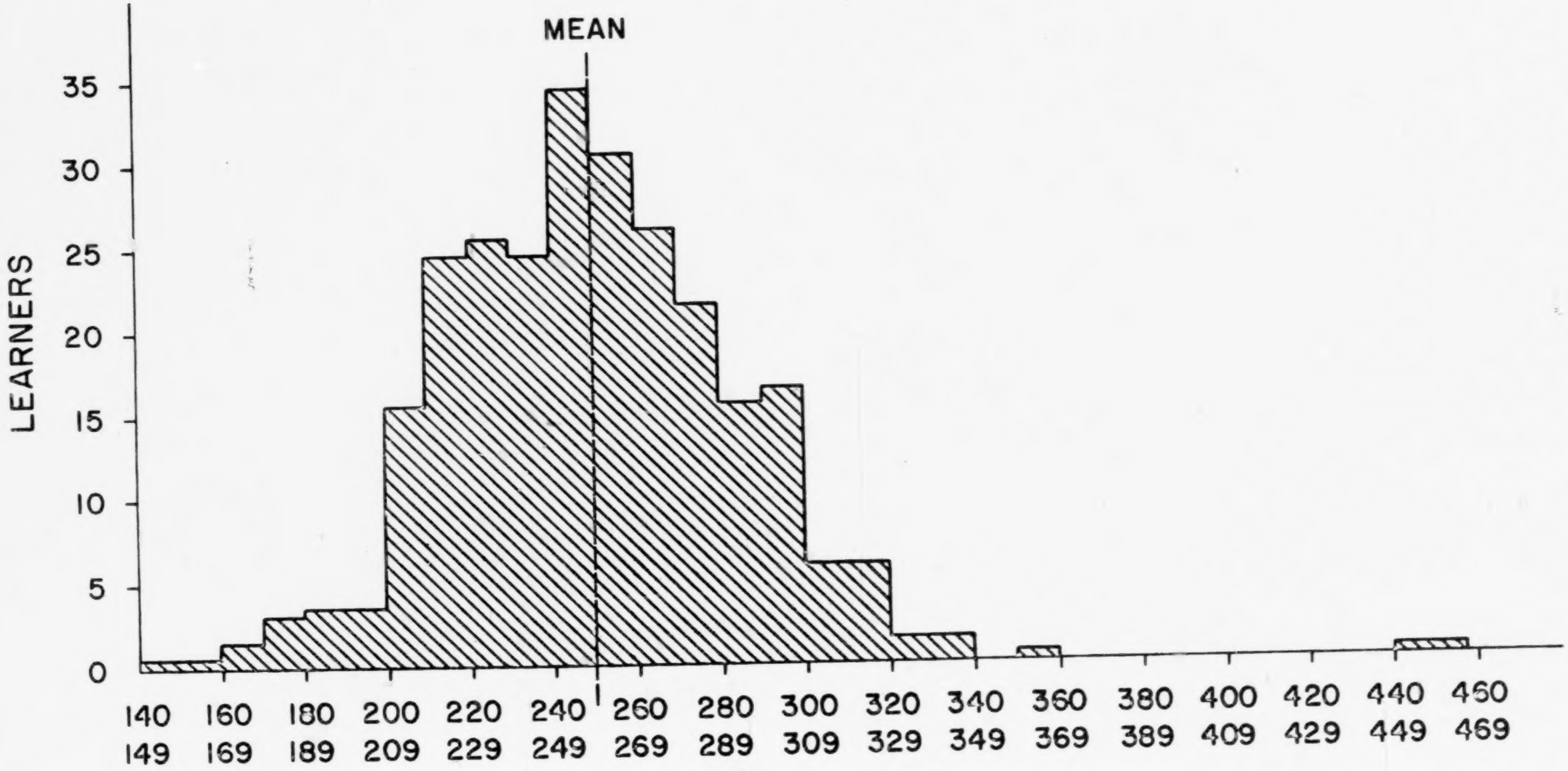
[1] Refer to Appendix G, page 226 for a more detailed and descriptive insight on the scoring procedure for total Leisure Activity Participation. For individual subject scores, refer to Appendix E, Table 27.

[2] While the LAS machine method scores were used in the above test, the Pearson "r" between LAS hand method and extent of leisure participation was determined to be .875 (df = 286, $p < .001$). For the 1,045 learners from the Burgess study, the same coefficient was determined to be .878 (df = 1,043, $p < .001$).

[3] For the 1,045 learners from the Burgess study, t coefficient was determined to be .829 (df = 1,043, $p < .001$).

CHART 5

A HISTOGRAM DISTRIBUTION OF RESPONDENTS ACCORDING TO EXTENT OF LEISURE PARTICIPATION[a]



MEAN = −249.9

MAXIMUM SCORE RANGE: −99−594 SKEW −.811 KURTOSIS −3.0

SCORE RANGE −145−252

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[a] SEE PAGE 222 FOR METHOD OF DETERMINING TOTAL LEISURE PARTICIPATION SCORE.

Concomitant Variables

This section of Chapter IV is devoted to a discussion on the analysis of selected concomitant variables over which the investigator had no control or which resulted from the selection of learners included in the investigation. These variables were identified in Chapter III when describing the population demographically. Because of questions raised by study subjects when providing the information, the omission of subject responses to certain demographic categories and over representation of other characteristics, certain variables,[1] were excluded from this analysis. The variables included were age, sex, education, income, and recency of participation in a formal course of study.

Since the direction of this study has been upon "what" constitutes adult educational behavior as perceived by the learner rather than an explanation of variance in adult educative behavior, the influence of the concomitant variables was not considered in the analysis of the five major hypotheses. Another reason was the lack of data on common concomitant variables concerning the educators from the Litchfield study by which to make comparisons or impose controls. Therefore, the direction of this analysis was to use concomitant variables as independent variables and explore their relationships with other (dependent) variables of the study, using a univariate multiple regression analysis routine, and "F" test for significance.[2]

The learners provided the data for this analysis when responding to the LAS (Part 6) and the Opinion Survey. The subsequent discussion concerns the findings from an analysis of the concomitant variables.

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[1] Marital status, size of community residence, employment, occupation and spouse's occupation. Validity of these variables discussed earlier in Chapter III.

[2] The MESA 85 Program was used. Program dated 23 October, 1968. Described in write-up for UCSL 510 of 10/10/65.

Age[1] is generally considered to have its effects on adult educational participation. The general findings from research suggest that the learners' extent of participation reaches its peak in mid years (around 35-44 years of age) and decreases thereafter with little active participation observed or expected beyond age 60-70. For the learners included in this study, the generalization would hold true, for by both measures of educational participation (LAS and ALAS) age was found to be significantly related to extent of participation scores when other concomitant variables held constant. It should be pointed out, however, that most of the older participants (50 and over) included in this study were from the smaller and more rural communities where access to group educational activities may have been a limiting factor. All learners, regardless of age, did engage in some activities for educational purposes.[2]

Economic status has also been found to be significantly related to extent of educational participation. The general notion is that learners from the middle and upper income brackets tend to participate in educational activities to a greater extent than learners from the lower middle and lower income levels. This generalization was not supported by the learners of this study who represented a range of income levels. In fact, when other concomitant variables were controlled, level of income was found not to be significantly related to CEMD scores, Leisure Participation scores or extent of educational participation by the two measures.

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[1] Edmund deS. Bunner and Associates, Overview, P. 105.

[2] Refer to Tables 39, 40, 41, 42, and 43 in Appendix I for statistical analysis.

Differences in the participation patterns of men and women have been widely reported. Brunner reports that "in populations which are at least moderately heterogeneous men usually participate more heavily than women in non-church formal associations."[1] He further suggests that differences in participation between sexes are more evident when participation is examined in association with other variables. For this study, sex was found to be significantly related to extent of participation as measured by the ALAS ($F = 2.29$, $df = 1,282$, $p < .05$) method when other concomitant variables were held constant. The direction of the "r" coefficient, however, was negative. This was interpreted to mean that the extent of participation for women was less than for men.

The level of one's education is genrally accepted as being significantly related to the extent of one's educational participation. Also, the level of education is generally accepted as the index of socio-economic status.[2] Therefore, the level of one's education should relate significantly to the concomitant variables of this study. From an analysis of data, the level of education was found to relate significantly to LAS scores ($F = 18.38$, $df = 1,282$, $p < .01$), CEMD scores ($F = 8.71$, $df = 1,282$, $p < .01$) Leisure Participation scores ($F = 11.64$, $df = 1,282$, $p < .01$), and ALAS scores ($F = 26.98$, $df = 1,282$, $p < .01$).

Recency of participation in a formal course of study is not usually associated with demographic data. The variable, however, in this study was considered as a concomitant variable. This direction seemed reasonable because of Metcalfe's finding that such behavior was significantly related to one's concept of education. In some respects, it was reasonable that this generalization was true. However, for the subjects of this study, it can only be said that the relationship between concepts of education and recency of participation in a formal course approaches significance (F = 2.11 with 1,282, df, N.S.). In the analysis, recency of participation in a formal course was found to be significantly related to extent of participation by the ALAS method and the LAS hand scoring method.

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[1] Edward deS Bruner and Associates, Overview, p. 106.

[2] Ibid., p. 105.

In the analysis of concomitant variables, one additional analysis was made for purposes of determining the percentage variance of total scores attributed to the combined influence of age, sex, income, level of education and recency of participation in a formal course. The procedure was to consider the five concomitant variables as independent variables and the instrument scores as dependent variables. The results are presented below.

TABLE 23

A STATISTICAL COMPARISON OF FIVE INDEPENDENT CONCOMITANT VARIABLES WITH SELECTED STUDY DEPENDENT VARIABLES

	Five Concomitant Variables			
Dependent Variables	Multiple "r"	F Value	P	% of Variance
LAS Scores	.362	8.49	.01	12.7
CEMD Scores	.242	3.52	.01	5.9
Leisure Participation	.244	3.56	.01	5.9
ALAS Scores	.452	14.51	.01	20.5

[a]df = 5,282

One relevant observation from Table 23 is the percentage of variance which the independent variables account for when comparing the dependent variables of LAS scores and ALAS scores. This finding was interpreted to mean that the ALAS method of measuring extent of participation was more sensitive to the uncontrollable variables than the LAS method.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND LIMITATIONS OF THE STUDY

This chapter provides a summary of the study including its purposes, theoretical basis, data collecting procedure, and major findings. A discussion on the conclusions reached and implications suggested is also presented in this final chapter. The chapter concludes with sections devoted to study limitations and recommendations for further research.

Summary

In total, this study was an investigation in measuring the extent of educational participation during leisure time as preceived by the learner.

Fundamental to this focus was the assumption that, to date, the LAS was the best instrument available by which to measure the extent of adult education participation during leisure time. A second assumption was that learners participating in leisure time educational activities could provide quantitative data on extent of educational participation by the same dimensions as incorporated in the LAS. A third assumption was that a measure, as preceived by the learner, would have qualities useful to both the theoretical and practical levels of study when concerned with the extent of adult education participation. Also, this study was considered to be a logical and timely extention of related investigations concerning the educational participation of adults.

The objective of this study has been to test the five major hypotheses derived from the theories relating to extent of educational participation. Inherent to this objective were several supporting purposes. They were: (1) an attempt to explain, in part, adult educative behavior in relationship to the individual's concept of education; (2) to compare the learner's judgment about selected activities with judgments which educators had previously rendered about the same activities; (3) to examine the relationship between extent of educational participation as defined by educators and as perceived by learners; and (4) to devise an alternative to the scoring of the Leisure Activity Survey based upon the quantitative judgment of learners.

Data for this study were obtained from 288 adults participating in a variety of activities which were announced to be educational in nature and were conducted during hours normally considered as leisure time for the learners involved. Data were collected by using three instruments either adapted or constructed for purposes of the study. Specifically, data were obtained on frequency of participation in leisure activities, concepts of education, and degree to which activities were engaged in for educational purposes. Two of the three instruments were scored for a total assessment of the behavior being considered, and one instrument considered the frequency of responses. Combinations of data were used to determine extent of educational participation as perceived by the learner. In analyzing data, correlation coefficients were used to identify relationships. Multivariance analysis was used to test the association between concomitant and dependent variables. Arithmetic probability paper was used in plotting data to test the normality of learners according to the two measures on participation. The test of significance was the value of "r" with different degrees of freedom, the value of "F", and the value of "Z", at the .05 level of significance. The variables subjected to different statistical treatments are more explicitly discussed in the concluding section.

Conclusions Regarding Hypotheses

Hypothesis I

The broader the learner's concept of education the more likely he is to utilize leisure activities for educational purposes.

Data for testing this hypothesis were taken from the 288 responses to the CEMD and the Opinion Survey instrument. In responding to the CEMD, learners were asked to select two of four items from each of eight sets of statements which,in reality,best described "what" education was to him. In the Opinion Survey the learner was asked to identify the degree to which he engaged in each of 99 leisure activities for educational purposes.

The data were analyzed by providing a total CEMD score for each learner. These scores were then considered to constitute a continuous variable. Responses to the Opinion Survey were grouped according to a "yes - no" classification ("yes , I do use the activity for education purposes"--"no , I do not"). Opinion Survey responses were then considered to constitute a dichotomous variable. The statistical test for Hypothesis I was the point-biserial coefficient of correlation, "r_pb" between the "yes" classification of the dichotomous variable and the CEMD scores for learners who used the activities for educational purposes.

Hypothesis I was partially supported. The empirical findings indicated that 44 of the 99 activity items had a significant relationship between educational concepts and the utilization of activities for educational purposes. Twelve activity items were related to learners' CEMD scores, considered to include both narrow and broad concepts of education. Learners with a narrow concept of education identified six activity items which were utilized for educational purposes.

The analysis of Hypothesis I provides for at least two conclusions. First, learners with broad concepts of education appear to utilize more selected leisure activities for educational purposes than do learners with a narrow concept of education. Perhaps this is explained by the notion that learners with a broad concept of education manage their leisure time differently,and they derive satisfaction from continuing to learn rather than from the utilization of spare time for recreational and other leisure time activities. One speculative thought is that,for some adults, learning is a means for utilizing leisure time which is acceptable to the moral and ethnic norms of our society. For others, it is a way of life and a method of keeping abreast of world happenings.

The second conclusion relates to the learners with a narrow concept of education--for they too utilize selected leisure activities for educational purposes. Although not in proportion with learners who have broad educational concepts, some activities tend to be utilized for educational purposes to a greater extent by learners with a narrow educational concept. This observation is explained in part by the technological changes exerted by employers for job skills, job training, and advanced technical and social knowledge. Also, it is probable that such learners are rather handy at the "do-it-yourself" activities. The conclusions from Hypothesis I support Houle's theory that all men and women possess in some measure the desire to learn. From this analysis, however, the qualification that "even though they utilize different means by which to achieve this end" should be added.

The findings and conclusions from the analysis of this part of the study suggests that the hypothesis should be refined to read, "The broader the learner's concept of education, the more likely he is to utilize selected leisure activities for educational purposes."

Hypothesis II

Learners and educators differ significantly in their judgments as to the degree leisure activities are undertaken for educational purposes.

Most previous studies of educational participation have investigated subject behavior by using various instruments which encompassed predetermined educational activities. The direction for this hypothesis was to provide the participants with a definition of adult education and the opportunity to identify those activities which he (she) engaged in for educational purposes. For comparative purposes, participants were provided instructions as identical as possible to those which educators previously used to identify educational items, (which included a definition of adult education).

Data for testing Hypothesis II were taken from the Litchfield study for educators' judgments and the Opinion Survey for learners' judgments. Item frequency responses were normalized by using item mean scores. Thus, an item mean score was determined for each of the 99 activities for both populations. In testing Hypothesis II, several comparisons were made.

Hypothesis II was accepted. The empirical evidence supporting this position was derived from both visual inspection of the data and several statistical tests. The first statistical test was the Pearson "r" coefficient between the 99 items, using item mean scores from the two populations. The "r" coefficient was determined to be .159 (df = 97, N.S.). The second test was the Pearson "r" between mean scores for Litchfield's 46 educational items. This coefficient was determined to be .241 (df = 44, N.S.).

The third, fourth,and fifth correlation coefficients were determined by using three different methods, e.g., Litchfield's method, mean scores method and majority method to identify educational items according to the learners' opinion, then to relate these items to like items by the educators' judgment.

The third coefficient to be determined was between items identified by the Litchfield method where not less than 72 learners responded to the "almost always" category,unless 144 responded to the "frequently" category, unless 72 selected the "seldom/never" category,unless 36 selected the "does not belong" category. This procedure allowed the identification of seven educational items plus four that were questionable. The Pearson "r" between the 11 items and like items by the educators judgment produced a correlation coefficient of .333 (df = 9, N.S.).

The fourth observation was between activity items identified by using the mean score method (mean score of 3.0±). By using this method, 10 items were identified as educational for the learners. The Pearson "r" between the items, as perceived by the two groups, was determined to be -.277 (df = 8, N.S.).

The fifth observation was between activity items identified by the majority method; e.g., items utilized by a majority (N of 145) of respondents for educational purposes and like items according to the educator's judgment. This procedure allowed 26 items to be identified as learner's educational items. The Pearson "r" between these items and like items from educators' judgments was determined to be .362 (df = 24, N.S. When the questionable items (four) were removed, "r" was determined to be .297 (df = 20, N.S.).

Based on the empirical evidence used to test Hypothesis II, it was concluded that learners and educators have a different perception as to which of the 99 activity items are utilized for educational purposes, as well as the degree to which the activities are utilized for educational purposes.[1] There are at least four possible explanations for this finding. The first is that educators are overly optimistic with regard to the activities adult learners use during leisure time for educational purposes.[2] The second is that educators have only begun to comprehend the nature and extent of adult education participation. The third is that perhaps the learners of this study did not have the opportunity to participate in activities which educators judge to be educational, but instead provided substitute activities to satisfy their quest for knowledge. The fourth possible explanation is that educators and learners do not communicate with one another.

Hypothesis III

Educators' judgment of an individual's total participation in educational activities will differ significantly from learners' judgments of that participation.

Data for testing this hypothesis were taken from the 288 responses to the LAS and the Opinion Survey. The management of data first included scoring the individual's Leisure Activity Survey response for extent of educational participation as perceived by educators. The second management step was to utilize the findings from the preceding hypothesis and score the LAS as perceived by learners.

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[1] Of the educational activities identified from the learners' data, twenty-two of the twenty-six are identical to those identified by educators.

[2] If this be true, this investigation would classify such a finding as excellent, for a salesman must first know his product. Then techniques for distribution can be improved.

Hypothesis III was rejected. Rejection of the hypothesis was based on the empirical evidence derived from the calculation of the Pearson "r" between learners' extent of participation scores by the two methods. The correlation coefficient was determined to be .931 (p .001). Thus, the two sets of scores are highly related and the relationship is not attributed to chance at the .05 level. Based on scores assigned to each learner by the two methods, the score difference is explained by the number of activities used to determine the score. Thus, educators used 46 items and learners used 26 items. In fact, from inspection, the ALAS method of measurement produced somewhat lower scores than did the educators' measurement.

One finding, however, resulting from analysis of Hypothesis III was that the scores by the ALAS method were more normally distributed by the ALAS method than by the LAS method.

Hypothesis IV

Hypothesis IV stated that the relative position of a group of individuals in a ranking of educational participation will vary significantly in terms of these two forms of scoring. The two forms of scoring referred to the LAS and the ALAS methods of measuring educational participation.

Data for testing this hypothesis were derived from the information prepared to test Hypothesis III. That is, the learners' extent of educational participation scores as determined by the LAS and the ALAS methods were used to test Hypothesis IV.

Hypothesis IV was rejected. This conclusion was based on the significance of the Pearson "r" correlation coefficient obtained when comparing the differences between sets of scores. The coefficient was determined to be .931 (df = 286, $p < .01$). Thus, the linear relationship between positions or sets of scores approached an almost perfect linear relationship.

While the Pearson "r" coefficient procedure was a more sensitive test than the rank-order procedures, a simple manual-ranking procedure indicated that, on the average, an individual's rank position could be expected to vary 15.2 positions in a sample of 288. Therefore, contrary to perceived ideas and notions, the individual's rank position in a group of 288 subjects would vary due to chance, by the methods of scoring used only seldom.

The conclusion drawn from this analysis is that when considering the ranked position of the learner in a large group, the method by which the extent of participation score is derived has little significance. The speculative reason for this finding focuses upon the notion that perhaps there are parallel items included in the 99 activities by which the extent of participation can be measured. That is to say that possibly educators tend to be idealistic from a broad or theoretical perspective and learners tend to utilize those activities which are available. Thus, it is suggested that the same behavior can be determined by several methods using a set of identical items. Consequently, selection of the method would depend upon subsequent use to be made of data.

Hypothesis V

The learner's extent of leisure participation is significantly related to his extent of educational participation as judged by either educators or learners.

Data by which to test Hypothesis V were from the two extent of educational participation scores (LAS and ALAS), as used in the two previous hypotheses, and from individual score on the extent of leisure participation. The extent of leisure participation score was determined by assigning weights (1-6) to the time interval categories of the LAS. The sum of the 99 item weights provided the leisure participation score. Under this procedure, the minimum score possible was 99, and the maximum score possible was 594. Score ranges were from a low of 140 to a high of 359 .

Hypothesis V is accepted. The empirical evidence supporting this position was the significance of the Pearson product moment correlation coefficients found when relating ALAS scores to Leisure Participation scores (.825, df = 286, $p < .01$) and LAS scores to Leisure Participation scores (.870, df = 286, $p < .01$). (For the data from the Burgess study the correlations were .875 and .878 respectively).

It was concluded, therefore, that be either method of scoring, the extent of one's educational participation is significantly related to his extent of leisure participation. This can be explained in part by the fact that, in this study, educational participation is a part of leisure participation, and all adults utilized some of their free time for educational purposes--some more than others.

The extent and significance of the relationship between participation scores suggests that, as available leisure time increases, so does extent of educational participation. It is very possible that the availability of household conveniences, the shorter workweek, and the rise in level of education, contributes to the educational use of leisure time.

Concluding Summary

One theoretical starting point for this study was that "the individual is the one enduring, unifying element among the total of his acts of educational participation." This study on participation has demonstrated considerable support for this theory in at least four ways: first, it was demonstrated that the breadth of one's educational concept is related to the use of selected leisure activities for educational purposes. Second, it was established that learners do have some notion about what activities were utilized for educational purposes. These opinions were, however, different from those perceived by educators. Third, it was demonstrated that learners can provide the necessary data for a quantitative measure on the extent of their educational participation--which is different from the measure established by educators.[1] Fourth, the identification of a strong relationship between the learner's extent of educational participation and his extent of leisure participation suggests that extent of leisure participation is highly related to educational participation.

Thus, in effect, this study has attempted to establish the existence of a relationship between the educational concept which the individual has, his opinion about which leisure activities he engages in for educational purposes, and his act of educational participation. To a degree, this has been demonstrated.

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[1] Educators used both quantitative and qualitative data by which to measure extent of participation.

Additional Conclusions

As a result of this study, several supplementary findings were found which have relevance to the field of adult education.

It was demonstrated in the pilot study that, for research purposes, there is little difference among the methods of self-reporting data on adults' educational activities. This finding, of course, depends on the degree of tolerance acceptable because of method and size of sample.

A second finding concerns the bimodal tendency observed when plotting scores derived from the LAS. Some researchers have speculated that the bimodal tendency is a result of the weighting procedure. This conclusion would appear correct, but this study would suggest that it is the number of activities used in the measure plus the educativeness weights assigned to the item.

A third finding was that the results of this study support the notion that all men and women possess, in some measure, the desire to learn; and from responses to this study, men and women engaged in all 99 leisure activities for educational purposes to some degree. This observation may not be universal, but it is valid for the learners included in this study.

The fourth finding concerns the relationship between LAS, ALAS and Leisure Participation scores. From the linear correlation coefficient between these respective variables, it appears that one can be used as a predictive factor of the other, with a high degree of accuracy anticipated. This practical finding broadens the potential use of the LAS, because of the previously used scoring procedure.

The fifth finding was from the analysis of the learners' demographic data. Thus, the level of one's education was the most significant concomitant variable. Level of education, by analysis of variance, was found to relate significantly to LAS scores, ($p < .01$), CEMD scores ($p < .01$.) Leisure Participation scores ($p < .01$) and ALAS scores ($p < .01$). Sex was found to be significantly related to extent of educational participation as determined by the ALAS method ($p < .05$) -- men tended to participate in educational activities more than women. The recency in which one participated in a formal course of study and the age of the participant were found to be significantly related to extent of educational participation by both methods of measurement (ALAS and LAS). Economic status or level of income was not found to be significantly related to other variables of this study.

Implications of the Study

Litchfield stated:

> The beginning of an empirically derived typology of the educational activities of men and women in our society, as identified in this [her] study provides the foundation of a framework from which to test further the underlying similarities and differences among many and diverse adult educational activities. A meaningful framework for ordering the many and vivid educational pursuits of adults has relevance for the theoretical description of the field of adult education.[1]

This study is a step forward in the pursuit of the development of a foundation for testing the similarities and differences among adult educational activities, especially concerning the "educativeness" of the event from the student perspective. Thus, Litchfield identified those activities likely to be engaged in for educational purposes. This study identifies those activities engaged in for educational purposes. Once the effectiveness of the activity is determined, it is possible to rank the educational pursuits of adults with some degree of certainty. The pattern of activities emerging from such an assessment would be a point from which to provide a theoretical description of the field of adult education; that is, the description can then be based upon the combined ideas of the educators and the practice of adult education by the learners.

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[1] Litchfield, "Nature and Pattern", p. 188.

Meanwhile, researchers, teachers, administrators, and others concerned with assessing the extent of individual adult participation must be realistic for effective adult learning. Thus, to enhance the learning process, "are educators to plan for and utilize those activities in which adults engage for educational purposes, or are they to continue to utilize those activities which are believed to be engaged in for educational purposes?" Adjustments toward the former direction would be toward unity; whereas, the latter is a direction toward disunity.

One implication of this study for those concerned with assessing the extent of individual adult education participation is the scoring of the Leisure Activity Survey. The results of this study suggest that the purpose for which the data are to be used might well dictate the method of scoring. For example, a teacher in adult education activities might wish to assess extent of educational participation during leisure time for purposes of relating subject matter content to interest of the student. A fast and fairly accurate estimate can be obtained by scoring the LAS for extent of leisure participation. This would eliminate machine processing, and could be accomplished in the classroom or group meeting in a matter of minutes. If the extent of participation is to be measured for research or related purposes, then the person concerned would need to decide if the perspective should be from the learner's view or the educator's view. The trends of this study would suggest that the measurement from the learners view has much merit, especially when the question of a normal distribution is a concern. Thus, the ALAS method would tend to produce a set of scores more normally distributed than the LAS method.

This study has been limited to the educational use of leisure time remaining after tasks of work, sleep, and household duties. The amount of leisure time available continues to move in new directions, as evidenced by the recent and continued growth of the recreations industry. Thus, in our modern society, numerous industries are articulating ways and means to utilize leisure time; e.g., "travel now, pay later" and so on.

In this respect, it is reasonable that the field of adult education has at least two responsibilities. First, to counsel with adults, either directly or indirectly, on the wise use of leisure time and to articulate among the competing industries the known principles of adult education. In effect, if adult educators subscribe to the notion that the development of the individual is the foremost objective and some people engage in many leisure activities for educational purposes, the task becomes one of improving the educational quality of the experience, whether it be on the golf course, in the classroom, or just chatting with friends. Adult educators cannot be all things to all people, but neither can they afford antiquated techniques in a changing society.

Perhaps the challenge for reaching those who might benefit the most from the learning experience is to provide new and innovative programs and techniques. For example, the Opinion Survey might be given to a group of auto mechanics to determine which activities they engaged in for educational purposes. The activities identified could be used to determine methods to be incorporated in the curriculum. Likewise, an assessment of the group's educational activities could suggest the environmental setting for the experience. Thus, it is reasonable that a group of auto mechanics would feel uncomfortable in a lecture room of a plush center for continuing education, but quite at home in a modern, equipped auto garage. It is also reasonable that a group of auto mechanics might view a current popular movie for educational purposes. The main concern in this approach, therefore, is how to best relate to certain participants through channels which they currently use to satisfy their quest for knowledge.

Limitations of the Study

Like many research studies, more questions have been raised than answers provided. The questions, however, are regarded as opportunities for further research, rather than limitations of the current study. Yet the study is not without weaknesses. The weaknesses are attributed to the instruments used in data collection, the sampling of population, and the investigator.

One weakness is attributed to the Leisure Activity Survey because of the conditions by which the investigator was granted permission to use the instrument in this study. Permission was granted to use the instrument on the basis that it be used in its present form and that the "masking" feature be respected. Acceptance of this condition placed a limitation on analyzing the responses to the demographic section (Section VI) as to size of residence community. Litchfield stated:

> All the study subjects lived within a 120 mile radius of Chicago and many individuals indicated that they did not know whether to circle as their residence community the population category which included Chicago or the population category which described their smaller suburb or intra-city area....[1]

The size of the residence community classifications were especially confusing to respondents of eastern Virginia (Virginia Beach, Chesapeake, and Portsmouth) because of recent annexation and consolidation procedures. The population of Virginia Beach at the time data were obtained was unknown. The investigator encountered estimates ranging from 150,000 to 200,000(+) persons. Invariably, respondents wanted to know "which category are we to identify with?" Other limitations attributed to the demographic section of the Leisure Activity Survey concerned "employment", "your occupation", and "spouse's occupation" categories. The employment category was found inadequate because of descriptive item choices. For example, "what is the employment status of a homemaker who is also a part or full time student?" The same criticism can be directed at "your occupation" and "spouse's occupation" categories. For example, "for spouse's occupation" what occupation classification is appropriate for a retired school teacher whose spouse is deceased? Based on the experience of this investigator with the LAS, the demographic portion (Part 6) is in need of refinement if the data is to be useful for both practical and research purposes.

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[1] Litchfield, "Nature and Pattern," p.192

A second limitation with the Leisure Activity Survey appeared to be the spacing between activity items or the lack of "white space". In this study, few item responses were omitted, but in discussing the instruments with study respondents,[1] several indicated that the items "seem to run together", especially the one-line items. Comments of this nature were expressed by persons who appeared to be over 50 years of age. Perhaps this is one reason why persons of this age level tended to take longer to complete the instrument.[2]

A third limitation in the LAS for purposes of this study, was the one year time element[1]. Although a valid inclusion for recall purposes in responding to activity items,[2] it was an undesirable entry in the Opinion Survey. The conflict eliminated the capability for an assessment of the honesty and accuracy of respondent replies. For example, under the framework of this study, a respondent could indicate that he (she) did not participate in the activity of "operating a ham radio" during the year, but did engage in the activity "almost always" for educational purposes in the Opinion Survey. In this study both responses are considered valid, for when he did engage in the activity (no time limit) it was "almost always" for educational purposes. Even with the time limitation factor, a simple experiment[3] showed that approximately 85% of subjects responding to the "not at all" category of the LAS also responded to the "seldom or never" or "does not belong" category of the Opinion Survey. Therefore, in utilizing the self-reporting techniques , "what is an acceptable tolerance for inaccuracy, forgetfulness, and deceit among adults who traditionally complete a couple of survey forms annually?"

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[1] After completing the data collecting instruments.

[2] 10-15 minutes longer. Average time to complete the LAS was around 20 minutes.

By current research standards, at least one limitation of this study is attributed to the CEMD. This ~~instruments~~ as used purported to differentiate between learners according to concepts of education (broad and narrow). Even though the instrument was adaptable to the population-at-large to an acceptable degree, one cannot help but question the unequal number of instrument items included from the six definitions of education used as a theoretical starting point from which to develop the instrument. For example, the CEMD includes 6 items derived from education defined as an environment. What would be the results should the instrument be refined to include equal statements (broad and narrow) from each definition? There is no legitimate basis upon which this limitation is to be based other than the instrument is biased because of unequal representation of items and a notion derived by the investigator when analyzing, observing and reviewing the data of this study.

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[1] This limitation could also be considered as a limitation of the Opinion Survey, but its inclusion in one instrument or exclusion from the other instrument raises certain questions on the quantitative measure of the educativeness of the activity.

[2] As established by Ingham.

[3] Sorting on the "not at all" category of the LAS and calculating percentage of frequency distribution to the combined categories of "seldom or never" and does not belong" in the Opinion Survey. It is reasonable to assume that approximately 10% or more of the respondents might have participated in the activities beyond the one year time dimension but participated for educational purposes? An affirmative answer to this question would add validity beyond a resonable doubt to the responses to both instruments.

One limitation to the Opinion Survey is found in its format and is reflected in the recommendations for further research. That is, the Opinion Survey was designed to be inclusive of only those items presented to educators for judgments on the degree to which activity items were likely to be engaged in for educational purposes. This objective was achieved, but the instrument itself and consequently its application could have been broadened by including a section whereby respondents could identify other educational items engaged in during leisure time for educational purposes.

A general limitation of the study was the lack of representative sampling from the adult population, as revealed in a description of the study population. One group grossly unrepresented was that composed of retired persons. Perhaps the timing and selection of learners was the limiting factor here. Although data were obtained from a variety of individuals in different educational activites, the results of the investigation cannot be generalized with any degree of certainty beyond the persons and groups described herein.

Another general limitation of this study is reflected in the selection of study subjects, for only persons engaged in announced educational activities when responding to the instrument were selected. This limitation was purposefully imposed by the design of the study, the instrument used, and Litchfield's conclusion that a difference in extent of participation existed between persons responding to the instrument while engaged in an activity and those who were considered non-participants at the time of responding.

Another limitation to this study was the investigator. As with most research projects, the investigator's biases are inherent, even though the conscious intent was objectivity.

Suggestions for Further Research

In the opinion of the investigator, a number of questions warrenting further research are suggested by the results of this study.

1. Would a shorter, more inclusive, form of the CEMD allow researchers to more clearly discriminate adults according to concepts of education than the present instrument? The analysis of this study suggests that perhaps "views of education" are on a continuum, ranging from classroom experience to life associations, with each degree adding its impact to the quest of knowledge. Thus, when (if ever) does an adult pass from a narrow to a broad view of education and what impact does the change bring in one's desire for continuing education?
2. What are the sources which allow for the development of a narrow or broad view of education? Somewhere during the stages of

development, the individual is influenced toward a view of education. This may be embedded in the home or in the elementary, secondary, or higher institutions of learning. What institutions have the greater influence? And should everyone have a broad veiw of education?

3. Do institutions of adult education provide programs and teach from a distinguishable concept of education? That is, what "view of education" underlines the philosophy of the technical institute, the liberal arts extension programs, the Cooperative Extension Service, adults religious education schools, and the skill programs?
4. Are the educational activities identified by subjects in this study appropriate for other groups from different parts of the country, or would the activities utilized for educational purposes vary between localities, regions and nations? National or even regional norms for measuring educational participation could aid adult educators in an assessment of clientele, and consequently in program development.
5. Now that a probe has been made into identifying the activities which certain adults engage in for educational purposes, what is the effectiveness of the activity? Which activities are more effective than others?
6. Is it now feasible, in theory and practice, to develop from the Leisure Activity Survey a more sophisticated measuring device to assess the extent of an individual's participation? If two additional dimensions directed at concepts of education and effectiveness of the activity could be incorporated, then adult educators could examine the student's extent of participation, the effectiveness of the activities in which he engages for educational pruposes, and concepts of education -- all from the vantage point of the student. An

instrument of this nature could provide the basis for quality programs and a closer relationship between teacher and student and the student learning experiences.

7. Since respondents only identified 26 of the 99 leisure activity items to be engaged in for educational purposes, for what purpose are the remaining 73 items utilized? What is the ratio of educational participation to other leisure time activity participation, and what is the ratio of educational participation to the amount of leisure time available.
8. What accounts for the differences in perception of extent of partcipation between learners and educators?

Significance of the Study

Since the literature of adult education contains gaps in the knowledge about the participatory behavior of the adult person, it is believed that the findings pertaining to the educational use of selected leisure activities by the learner has both practical and theoretical significance for learners, teachers, and institutions concerned with the continuing education of adults. Theoretically, the information can be used as a starting point for researchers to consider the learners judgments of what activities are used during leisure time for improving knowledge, skill, or sensitivity. This direction is, perhaps, one dimension to the problem of "drop-out" rates among adults in educational endeavors. Also, knowledge about what is educational for the learner should be another step toward achieving the goal of determining what adult education is to its patrons and some conditions to be satisfied in order that adult education may be a reality and not a name, slogan, or field of study. In addition, knowledge concerning the relationship between the assumed purpose of an activity and purposes for which the activity is used should enable the teacher and learner to eventually become more equal partners in the learning process.

The practical significance of this study has both direct and indirect implications for educators and institutions concerned with adult education. Directly, an identification of a source of influence on the adult's judgment about what education is can provide the direction whereby teachers and others can change, refine, or re-direct activities in order to make the learning experience more effective as a learning environment for the participants.

Another contribution of this study is an alternative means for the scoring of the Liesure Activity Survey. Scoring of this instrument in the past has included both quantitative and qualitative scores. The findings of this study permit the instrument to be scored, with some validity, by using quantitative scores derived from learners.

The instrument used for obtaining the adult's judgment about his own activities should prove useful to institutions of adult education in identifying ways and means to better serve the clientele in the educational use of leisure time. Also, the findings from a comparison of judgments between educators and learners for a set of leisure activities can be used to refine instruments which presently purport to measure adult educative behavior by the use of educational activities.

A Concluding Note

In summary, this study is believed to contribute to knowledge concerning the educational use of leisure time by adults toward satisfying the desire to learn. Perhaps its findings will be overshadowed by the notion that there is a difference between what adult educators believe to be correct and what students of adult education practice. Hopefully, however, adult educators will not forsake the notion that the individual is the focus of concern and that his activities and thoughts are the basis for a better understanding of adult educative behavior.

APPENDIX A

INSTRUMENT

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Identification

THE UNIVERSITY OF CHICAGO
THE DEPARTMENT OF EDUCATION
5835 Kimbark Avenue
Chicago, Illinois 60637

To: Participants in Selected Educational Programs

Ladies and Gentlemen:

After time devoted to work, sleep, and household tasks, adults for many reasons, choose to participate in a variety of "leisure" activities. In considering the combinations of numerous reasons, different activities, and varying amounts of time spent in the same activity by different adults, the "frequency" of individual participation in leisure activities is a major concern of the adult educator.

Since "frequency" of participation in certain leisure activities is a major dimension in my research study, I would like your help in filling out the attached survey form entitled "The LEISURE ACTIVITY SURVEY". Your individual replies will be kept confidential and will be used only for purposes of this study.

This total survey, in three sections, is not a TEST. The only correct answer to any item is your honest opinion. Therefore, satisfy yourself that the responses you give apply to you and represent your best judgment.

Read all directions carefully, as they differ for each part of the survey. When you have completed the LEISURE ACTIVITY SURVEY please return the form to me and pick up Sections II and III.

After recording your identification mark in the upper right corner, you may begin at any time. Do not hurry, there is no time limit. I hope you will find the survey of interest.

Yours truly,

O. W. "Buddy" Cundiff

O. W. Cundiff
Graduate Student in Adult Education
(VPI Extension Division)

Permission to use the LEISURE ACTIVITY SURVEY has been granted by Ann Litchfield.

Pages 154-161

Leisure Activity Survey

(A Copyright Instrument used as part of this study.)

Instrument not included as a part of the appendix.

For more information concerning this instrument refer to:

Ann Litchfield, "The Nature and Pattern of Participation in Educational Activities",
(unpublished Ph.D. dissertation Department of Education,
The University of Chicago, 1965).

Miss Litchfield is
currently Assistant Director,
Cooperative Extension Service, State University Oregon
Corvallis, Oregon 97331

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Identification

THE UNIVERSITY OF CHICAGO
THE DEPARTMENT OF EDUCATION
5835 Kimbark Avenue
Chicago, Illinois 60637

To: Participants in Selected Educational Programs
who have completed the Leisure Activity Survey

Ladies and Gentlemen:

One reason given for participating in Leisure activities is the "educational use of leisure time". That is, during the leisure time available, some adults desire to improve their knowledge, learn a new skill or learn to better relate themselves to the everyday world. Accordingly, adults engage in a variety of activities that serve to facilitate the "learning experience".

Therefore, to better serve the adults' educational needs and interests through the use of Leisure activities, I would like your help in filling out the attached survey forms. The two remaining sections of this survey are identified as:

Section II - A Survey of Views about Education

Section III - A Survey of Opinions about the Degree to Which You Engage in Selected Leisure Activities for Educational Purposes.

Remember, this is not a TEST. The [illegible]y correct answer to any item is your best judgment about each ite[illegible]s it pertains to you.

Read all directions carefully as they differ for each Section. After recording your identification mark in the upper right corner (use the same mark as recorded on Section I), you may begin at any time. Do not hurry, there is no time limit.

Your time and assistance in completing the three survey forms is greatly appreciated.

Yours truly,

O. W. "Buddy" Cundiff

O. W. Cundiff
Graduate Student in Adult Education
(VPI Extension Division)

Permission to use Section II has been granted by William Metcalf. Section III was developed as part of this study.

SECTION II - A SURVEY OF VIEWS ABOUT EDUCATION

The purpose of this part of the questionnaire is to determine the different views which adults may hold of education.

On the following two pages are eight sets of phrases relating to ideas about education, all of which apply to education in some manner. You are asked to choose, in each set, the two phrases which BEST CHARACTERIZE your views of "what is education" (not what it should be).

Here is an example of the phrases to which you are asked to respond:

Education:

a. is connected with values
b. is a movement toward goals
c. occurs in summer institutes and workshops
d. involves the personality growth of the learner

Let us suppose that you think the phrases represented by "b" and "d" better characterize your views of education than do either of the other two. In that case, draw circles around both letters "b" and "d".

On the other hand, suppose you think that "c" and "d" would be preferable as describing your ideas about education. In that case, circle both the letters "c" and "d".

Remember, circle the two letters at the left of each set of phrases which BEST CHARACTERIZE your views on education. Be sure to respond to all eight sets of phrases.

Turn the page and begin, don't hurry. There is no time limit.

SECTION II - VIEWS OF EDUCATION

In each set, circle the two letters at the left of those phrases which BEST CHARACTERIZE your views on education.

Tab. Col.
office use
only

- 1 -

Education:

1 a helps to continue or modify the existing social system in society
2 b stimulates the student's interest in a special field
3 c represents a way of life for the learner
4 d prepares the learner for future learning

- 2 -

Education:

5 a occurs in life's experiences
6 b involves formal learning experiences
7 c involves the purposeful nature of learning experiences
8 d is exercise for the learner's mind

- 3 -

Education:

9 a helps the student meet requirements for promotion
10 b prepares the learner for employment
11 c trains leaders for individual and organizational responsibilities
12 d develops the learner's ability to adjust to change

- 4 -

Education:

13 a increases the learner's knowledge of facts
14 b results in a change in human behavior
15 c increases the sensitivity, knowledge, or skill of the learner
16 d occurs in summer school

(continued on next page)

SECTION II - VIEWS OF EDUCATION (continued)

In each set, circle the two letters at the left of those phrases which BEST CHARACTERIZE your views on education.

Tab. Col.
office use
only

- 5 -

Education:

17 a occurs during "on the job" training
18 b occurs in the classroom situation
19 c is characterized by the resources and services of the public library
20 d is characterized by tours demonstrating contrasting operations

- 6 -

Education:

21 a depends on the presence of a teacher
22 b depends on the motivation of the student
23 c is concerned with the acquisitions of facts by the learner
24 d involves the weighing of alternatives by the student in making decisions

- 7 -

Education:

25 a serves the intellectually able student
26 b assists the learner in setting goals
27 c increases the learner's ability to store information
28 d serves the curious student

- 8 -

Education:

29 a is directed toward the middle class student
30 b occurs in a formal structured environment
31 c is concerned with helping the learner understand relationships
32 d involves identifying and solving problems

end
card
#3

Now that you have considered the above sets of phrases, please review them to be sure that you circled TWO and only TWO letters in each of the eight sets.

When you have completed Section II, turn the page and continue with Section III.

SECTION III - A SURVEY OF OPINIONS ABOUT THE DEGREE TO WHICH YOU ENGAGE IN LEISURE ACTIVITIES FOR EDUCATIONAL PURPOSES

In this Section a number of items appear which represent a variety of activities in which adults participate during their leisure time. Because certain activities are more likely to be undertaken for educational purposes than others, I ask your help in making a distinction between those items which in your judgment, are engaged in for educational purposes and those items which are engaged in for other purposes.

The items represent a variety of leisure activities. The categories represent the degree to which the activities are engaged in for educational purposes. The categories are:

A. ALMOST ALWAYS - The activity is one which is ALMOST ALWAYS undertaken by me for educational purposes.

B. FREQUENTLY - The activity is one which is FREQUENTLY undertaken by me for educational purposes.

C. SELDOM OR NEVER - The activity is one which is SELDOM OR NEVER undertaken by me for educational purposes.

D. DOES NOT BELONG - The activity is one which DOES NOT CLEARLY BELONG in any of the other categories.

Education is defined here as any process by which a man or woman consciously and voluntarily makes an effort to improve or increase his skill, his knowledge or better relate himself to the everyday world. Leisure is defined here as all time free from work and household tasks.

You are asked to determine which activities belong in which category based on your own participation. In terms of educational reasons for participating in an activity, you are asked to indicate the degree to which YOU engage in that activity for purposes of improving or increasing your skill, your knowledge, or better relate yourself to the everyday world. Please note your response for each of the 99 activities by circling the letter appropriate to the category in which an item is placed.

Remember, in this Section, I am looking for the degree to which you engage in selected leisure activities for educational purposes.

THIS IS NOT A TEST. It is perfectly all right to change an activity from one category to another if you have a second thought about where it should be.

Turn the page and begin. Don't hurry, there is no time limit. Please respond to every item.

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
1	Chatted or visited with friends, relatives, or neighbors	a	b	c	d
2	Read a newspaper	a	b	c	d
3	Relaxed by sitting around, doing nothing in particular	a	b	c	d
4	Watched news on TV or listened to news on the radio	a	b	c	d
5	Watched a general TV program, *such as* a variety show, drama, western, or comedy	a	b	c	d
6	Watched an informational program on TV, *such as* a panel discussion, quiz show, or travelogue	a	b	c	d
7	Listened to a current hit record on a record player	a	b	c	d
8	Listened to a record of classical music on a record player	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
9	Listened to folk music or jazz on radio or TV	a	b	c	d
10	Listened to classical music on radio or TV	a	b	c	d
11	Listened to an informational program on radio, *such as* a personal interview, consumer tips, or a discussion show	a	b	c	d
12	Listened to a general radio program, *such as* popular music, a variety show, or drama	a	b	c	d
15	Went to a church service	a	b	c	d
16	Went to a tavern, bar, or night club	a	b	c	d
17	Went to a meeting of some fraternal, social or recreational group	a	b	c	d
18	Went to a meeting of some business, professional, civic, political, or labor group	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

		CATEGORIES			
Tab. Col.	Activity Items	Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
19	Went to a meeting of a religious group	a	b	c	d
20	Went to a settlement house or a neighborhood center	a	b	c	d
21	Read one or more magazines dealing with a special interest or hobby	a	b	c	d
22	Read a technical, professional, trade, or farm magazine	a	b	c	d
23	Read a literary or cultural magazine, *such as* "The Saturday Review," "Harper's," or "Atlantic Monthly"	a	b	c	d
24	Read a journal of opinion, *such as* "Encounter," "Nation," or "Yale Review"	a	b	c	d
25	Read a popular general magazine, *such as* "Look," "Life," or "Reader's Digest"	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
26	Read an exciting magazine, *such as* "Silver Screen," "True Detective," "Modern Romance," or "Confidential"	a	b	c	d
27	Read a comic book	a	b	c	d
28	Read a current events periodical, *such as* "Time," "Newsweek," or "U.S. News and World Report"	a	b	c	d
29	Played a word game of some sort, *such as* a crossword puzzle or anagram	a	b	c	d
30	Played a game, *such as* chess, checkers, poker, or bridge	a	b	c	d
31	Took a private lesson	a	b	c	d
32	Sang with an amateur or semi-professional group	a	b	c	d
33	Served as a volunteer in some worthwhile cause	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
34	Engaged in photography as a hobby	a	b	c	d
35	Operated a "ham" radio	a	b	c	d
38	Took a pleasure trip overnight or longer	a	b	c	d
39	Worked on a scrapbook	a	b	c	d
40	Built up a special collection of something, *such as* stamps, antiques, books, or pictures	a	b	c	d
41	Learned how to carry out a do-it-yourself project	a	b	c	d
42	Read a number of books on a subject I wanted to learn more about	a	b	c	d
43	Read a classic fiction book, *such as* one of The Great Books or other great works	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
44	Read poetry	a	b	c	d
45	Read a popular fiction book, *such as* a western, mystery, adventure, or science fiction	a	b	c	d
46	Read a practical non-fiction book or article on a subject, *such as* gardening, raising children, or improving my home	a	b	c	d
47	Read a non-fiction book on a general subject, *such as* psychology, art, economics, history, biography, or science	a	b	c	d
48	Read a religious or other inspirational book or article	a	b	c	d
49	Read a book dealing with my trade, business or profession	a	b	c	d
50	Went dancing	a	b	c	d
51	Went to see a current popular movie	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

		CATEGORIES			
Tab. Col.	Activity Items	Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
52	Went to see an art film	a	b	c	d
53	Went to a public lecture	a	b	c	d
54	Went to a meeting of a nationality or ethnic organization	a	b	c	d
55	Went to a conference, an institute, or a workshop	a	b	c	d
56	Went for a trip especially to see some historical or other important landmark	a	b	c	d
57	Went to a meeting of a group organized to discuss or learn about things	a	b	c	d
58	Did some sort of art or craft-work, *such as* painting, woodworking, weaving, knitting, or modeling	a	b	c	d
59	Visited an art exhibition, art gallery, or museum	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
60	Attended a symphony, recital, opera, ballet, or similar activity	a	b	c	d
61	Attended the theater to see a play or a musical show	a	b	c	d
62	Attended an athletic or sporting event as a spectator	a	b	c	d
63	Took part in a non-competitive sport, *such as* fishing, hunting, boating, or skiing	a	b	c	d
64	Took part in a competitive sport, *such as* golf, tennis, baseball, basketball, or bowling	a	b	c	d
65	Devoted time as a volunteer to some political or civic cause	a	b	c	d
66	Made an article of clothing for myself or someone else	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Cagegories
67	Followed a course or class offered on TV or radio	a	b	c	d
68	Made a speech before a group	a	b	c	d
69	Did some kind of nature study, *such as* birdwatching or going for a hike in the country	a	b	c	d
70	Helped coach or manage an athletic team, *such as* the Little League or a bowling team	a	b	c	d
1	Went to a fair	a	b	c	d
2	Went to an amusement park or carnival	a	b	c	d
3	Went to an "Auto Show," "Better Homes Show," or other type of display	a	b	c	d
4	Went to a race, *such as* a horse race, automobile race, or dog race	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
5	Helped organize a group, club, or organization	a	b	c	d
6	Registered for a class on TV or radio	a	b	c	d
7	Took a course at a university, a college, or a public school	a	b	c	d
8	Took a correspondence or home study course	a	b	c	d
9	Took a course given by some community organization like the "Y", Red Cross, or library	a	b	c	d
10	Took a course offered by my employer	a	b	c	d
11	Took part in an amateur dramatic or musical production	a	b	c	d
12	Attended a large meeting or convention	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
15	Served as a leader or an officer of some adult group	a	b	c	d
16	Served as a leader or advisor of some youth group	a	b	c	d
17	Worked on my car or a friend's car	a	b	c	d
18	Taught something to a friend or a member of the family	a	b	c	d
19	Visited or cared for a person who was elderly or sick	a	b	c	d
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	a	b	c	d
21	Listened to a teaching record, such as one which teaches a foreign language	a	b	c	d
22	Did redecorating, painting, landscaping, or repair work around the house	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge, or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
23	Did some sort of composing or writing	a	b	c	d
24	Expressed my opinion on a controversial topic or issue at a meeting	a	b	c	d
25	Went shopping for myself or other people	a	b	c	d
26	Went on a picnic or some other similar social or recreational activity	a	b	c	d
27	Played with children or grandchildren	a	b	c	d
28	Froze or otherwise preserved food of some sort	a	b	c	d
29	Wrote a letter to friends or relatives	a	b	c	d
30	Wrote a letter to the editor or some other such person or official	a	b	c	d
31	Helped other people with their personal problems	a	b	c	d

Directions: Circle the letter appropriate to the statement describing the degree to which you engage in the activity consciously and voluntarily in an effort to improve or increase your skill, your knowledge or better relate yourself to the everyday world.

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
32	Tried out a new recipe or experimented with the unusual in food or drink	a	b	c	d
33	Played a musical instrument as a hobby	a	b	c	d
34	Thought about an abstruse question *such as*, what is truth? beauty? or the place of man in the scheme of things?	a	b	c	d
35	Browsed in a bookstore or library	a	b	c	d

The following information is needed for research purposes. Please answer the question as frankly and accurately as you can by circling the number of the answer that applies to you.

RECENCY IN WHICH YOU PARTICIPATED IN A FORMAL COURSE OF STUDY (i.e., one taught in a classroom setting)

37	1. Presently participating	4. 18 months ago
	2. 6 months ago	5. 24 months ago
	3. 12 months ago	6. more than 24 months

This completes the Survey: However, before returning it please review each of the activity items in this Section to be sure that you have responded to each one. Thank you for your effort and assistance.

APPENDIX B

LITCHFIELD'S WEIGHTING PROCEDURE

An Explanation of the Procedure Used to Rank Educational Items for Weighting Purposes[1]

The procedures used to determine the degree to which activities were judged to be entered into for educational reasons and the measurement of this educative dimension are discussed in Chapter II. Intent here is to explain one aspect of the determination of educativeness, that is, how this score was derived from which activity items were ranked. From the ranks scores for each item, groups of activities were formed for weighting purposes.

The 16 judges, as shown in Appendix D, each placed the 99 activity items in one of four categories. Those categories read: (1) This activity is one which is almost always undertaken consciously and voluntarily in an effort to improve or increase skill, knowledge, or sensitivity. (2) This activity is one which is frequently undertaken consciously and voluntarily in an effort to improve or increase skill, knowledge, or sensitivity. (3) This activity is one which is seldom or never undertaken consciously and voluntarily in an effort to improve or increase skill, knowledge, or sensitivity. (4) This activity is one which does not clearly belong in any of the other categories. To obtain a score for each item, the number of judges each placing an item in the same category was multiplied by the number of that category and the scores for all categories were added to obtain a total score. Thus when 3 judges placed the activity in Category 1, and 4 placed it in Category 2, and 8 in Category 3, and 1 in Category 4, the scoring would be:

3 x 1 = 3
4 x 2 = 8
8 x 3 =24
1 x 4 = 4
Total =39

---

[1] Pages 181, 182, 183, and 184 were taken from the Litchfield Study: Litchfield, "Nature and Patterns", pp. 241-244.

Resulting in a total score of 39. This distribution of judgments was a case for the activity:

The range of scores here considered (only those items previously placed in either the "almost always" or "frequently" educative categories (was from a high of 16) e.g., "read a number of books on a subject I wanted to learn more about" (to a low of 36) "went to a meeting of a religious group."

TABLE 24

WEIGHT ASSIGNED TO 46 ACTIVITIES JUDGED TO BE EDUCATIONAL ACCORDING TO RANK ORDER OF THE ITEM SCORES

Assigned Weight	Score	Judges Category	Activity
4	16	1[a]	Read a number of books on a subject I wanted to learn more about.
4	16	1	Took a private lesson.
4	16	1	Took a correspondence or home study course.
4	16	1	Listened to teaching records, such as those which teach a foreign language.
4	17	1	Registered for a class on TV or radio.
4	17	1	Read technical, professional, trade, or farm magazines.
4	17	1	Took a course at a university, a college, or a public school.
4	18	1	Read books dealing with my trade, business, or profession.
4	18	1	Read literary or cultural magazines of opinion, such as "The Saturday Review," "Fortune," "Harper's" or "Atlantic Monthly"
4	18	1	Consulted an encyclopedia, gazetteer, world almanac, or other reference source.
4	18	1	Went to a conference, an institute, or a workshop.
4	18	1	Went to meetings of a group organized to discuss or learn about things.

TABLE 24 --Continued

Assigned Weight	Score	Judges Category	Activity
4	19	1	Read non-fiction books on general subjects, such as psychology, art, economics, history, biography, or science.
4	19	1	Read practical non-fiction books or articles on subjects, such as gardening, raising children, improving my home.
4	19	1	Read journals of opinion, such as "Encounter," "Nation," or "Yale Review."
4	20	1[a]	Thought about abstruse questions, such as what is truth? beauty? or the place of men in the scheme of things?
4	20	1	Followed a course or class offered on TV or radio.
4	20	1	Took a course given by some community organization like the "Y," Red Cross, or library.
4	21	1	Read one or more magazines dealing with a special interest or hobby of mine.
Total number of activities in weight 4 group = 19			
3	23	1[a]	Read current events periodicals, such as "Time," "Newsweek," or "U.S. News and World Report."
3	25	1	Listened to informational programs on radio, such as personal interviews, consumer tips, or discussion shows.
3	25	1	Read classic fiction, such as the Great Books or other great works.
3	25	1	Learned how to carry out a do-it-yourself project.
3	28	1	Took a course offered by my employer.
Total number of activities in weight 3 group = 5			
2	26	2[b]	Went to a public lecture.
2	26	2	Watched or listened to news on TV or radio.
2	26	2	Went for a trip especially to see some historical or other important landmark.
2	28	2	Watched an informational program on TV, such as panel discussions, quiz shows, or travelogues.

TABLE 24 --Continued

Assigned Weight	Score	Judges Category	Activity
2	29	2	Read poetry.
2	30	2	Went to see art films.
2	30	2[b]	Read religious or other inspirational books or articles.
2	30	2	Read a newspaper.
2	30	2	Visited an art exhibition, art gallery, or museum.
2	31	2	Attended a symphony, recital, opera, ballet, or similar activity.
Total number of activities in weight 2 group = 10			
1	32	2	Tried out new recipes or experimented with the unusual in food or drink.
1	32	2	Attended a large meeting or convention.
1	32	2	Went to meetings of some business, professional, civic, political, or labor group.
1	33	2	Listened to classical music on radio or TV.
1	33	2	Browsed in a book store or library.
1	33	2	Read popular general magazines such as "Look," "Life," "Saturday Evening Post" or "Reader's Digest."
1	33	2	Listened to a record of classical music on a record player.
1	34	2	Built up a special collection of something, such as stamps, antiques, books, or pictures.
1	34	2	Did some kind of nature study, such as bird-watching, or going for hikes in the country.
1	34	2	Went to an "Auto Show," "Better Homes Show," or other type of display.
1	34	2	Went to a settlement house or a neighborhood center.
1	36	2	Went to a meeting of a religious group.
Total number of activities in weight group = 12 Total N = 46			

---

[a] Judges category 1 entitled "Activity Almost Always Undertaken for Educational Purposes."

[b] Judges category 2 entitled "Activity Frequently Undertaken for Educational Purposes."

APPENDIX C

INTER-ITEM CORRELATION COEFFICIENT FOR CEMD

Table 25

Correlation Coefficients for CEMD Broad Statements

Var. No.	Var. Name	(2)	(4)	(7)°	(9)	(14)	(15)	(18)
(2)	Modified social system	--						
(4)	Learners way of life	-.197	--					
(7)	Occurs in life	.100	.201	--				
(9)	Learning purposeful	.085	.267	-.133	--			
(14)	Train's leaders	.220	.065	.183	.090	--		
(15)	Adjustment change	-.018	.284	.020	.273	-.160	--	
(18)	Behavior change	.242	.363	.174	.196	.147	.378	--
(19)	Increases skill	--	.070	-.040	.131	.213	.020	-.263
(24)	Public library	.070	.124	-.076	.158	.093	.193	.054
(25)	Operations tours	.081	.045	.022	.130	.059	.233	.109
(28)	Student motivation	-.037	.127	.079	-.076	-.065	.101	.056
(30)	Weighing alternatives	.058	.216	.156	.246	.166	.367	.199
(33)	Assist setting goals	.016	.081	.109	.215	.122	.146	.118
(35)	Serves curious	-.196	.129	-.109	.013	.177	.094	.299
(39)	Relational knowledge	.050	.195	-.006	.225	.209	.006	-.006
(40)	Solve problems	--	.217	.088	.242	.349	.024	.061

Table 25 (Continued)

Correlation Coefficients for CEMD Broad Statements

(19)	(24)	(25)	(28)	(30)	(33)	(35)	(39)	(40)
--								
.102	--							
-.069	.034	--						
.053	.092	.095	--					
.169	-.080	.039	-.114	--				
--	-.105	.159	-.013	.156	--			
.051	.124	-.188	-.060	.104	-.266	--		
.393	.230	-.081	.065	.145	.152	-.022	--	
.202	.086	-.087	-.011	.166	-.004	.182	.276	--

Table 26

Correlation Coefficients for CEMD Narrow Statements

Var. No.	Var. Name	(3)	(5)	(8)	(10)	(12)	(13)	(17)
(3)	Stimulates interest	--						
(5)	Prepares future life	-.285						
(8)	Formal learning	.649	-.157					
(10)	Exercise of mind	.670	-.113	.725				
(12)	Required prom.	.697	-.158	.764	.823			
(13)	Employment prep.	.005	.263	-.019	-.016	-.347		
(17)	Increases in fact	.626	.040	.696	.772	.740	.180	
(20)	Summer school	.664	-.218	.876	.871	.862	-.087	.769
(22)	On Job training	.552	-.095	.727	.733	.723	.032	.657
(23)	Classroom sit	.096	.172	.153	-.020	.009	.329	.079
(27)	Teacher presence	.713	-.175	.690	.640	.733	.032	.589
(29)	Fact acquisition	.416	-.213	.538	.697	.589	-.075	.515
(32)	Serves able students	.519	-.088	.733	.704	.710	.027	.679
(34)	Information storage	.646	-.106	.771	.784	.835	-.007	.762
(37)	Middle class	.144	.096	.306	.334	.331	.100	.338
(38)	Structured environment	-.025	.209	.039	.028	.098	-.014	.084

Table 26 (Continued)

Correlation Coefficients for CEMD Narrow Statements

(20)	(22)	(23)	(27)	(29)	(32)	(34)	(37)	(38)
.797								
.075	.072							
.705	.619	-.010	--					
.658	.550	.087	.448	--				
.818	.600	.094	.667	.496	--			
.869	.700	.070	.637	.552	.632	--		
.298	.305	.011	.157	.214	.224	.291	--	
.045	.063	-.092	.129	-.017	-.002	.023	.263	--

APPENDIX D

LITCHFIELD'S INSTRUCTIONS TO JUDGES

PROCEDURES AND INSTRUCTIONS FOR THE JUDGES ASKED TO IDENTIFY EDUCATIONAL ACTIVITIES

Introduction

I ask your help and judgment, as an adult educator, in categorizing items for an Index of Participation. The items represent a variety of activities in which adults participate during their leisure time. The categories represent the degree to which, in your judgment, the activities are engaged in for "educational" purposes. You are asked to determine which activities belong in which category. Further refinement of the Index will be possible on the basis of your judgment.

Education is defined here as any process by which a man or woman consciously and voluntarily makes an effort to improve or increase his skill, his knowledge, or his sensitivity. Leisure is defined here as all time free from work and household tasks.

Certain kinds of activities are more likely to be undertaken for educational purposes than others. You are asked to help me establish some ranking of activities in terms of the educational expectations with which the activity is likely to be undertaken by the participant. I am here looking only at educative purpose and not the value of the goals which are sought, i.e., I am looking at the effort to "improve ability" and not at the goal of "to crack safes".

Directions

You are provided with four pink cards. Lay them out before you in a row. Please read each one carefully.

You are also provided with a large number of white cards each of which contains a leisure time activity. Please sort these white cards into piles in terms of the categories shown on the pink cards. It is perfectly all right to change the place where you put a card if you have a second thought about where it should be.

When you have finished sorting, review each pile to be sure it contains the appropriate cards. Place each pink card on top of the pile which it identifies, then put a rubber band around each of the piles. Please write your name on the instruction sheet, then place the cards and instruction sheet back into the envelope. Please return the envelope to me.

Thank you very much.

APPENDIX E

LEARNERS SCORES FOR PARTICIPATION CONCEPTS AND LEISURE PARTICIPATION

TABLE 27

INDIVIDUAL SUBJECT SCORES BY THE LAS; THE CEMD; AND LEISURE PARTICIPATION

Subject ID	LAS	CEMD	LEISURE PART.
001	167	79	252
002	149	107	232
003	128	72	209
004	193	107	296
006	199	93	283
007	106	72	219
008	193	93	276
009	191	86	238
010	134	93	199
011	246	100	261
015	267	86	293
016	198	107	212
017	202	100	219
018	112	86	198
019	192	79	272
020	231	107	280
021	225	79	249
022	263	72	287
023	371	79	327
024	128	86	225
025	206	79	261
026	282	107	300
027	161	65	241
028	146	86	242
029	199	79	244
030	253	86	266
031	141	79	210
032	271	114	294
033	200	72	254
034	135	93	211
035	206	86	250
036	147	65	268
037	170	93	243
038	203	107	232
039	336	100	308
040	203	93	243
041	185	107	220
042	134	65	222
050	157	93	205
051	152	72	222
052	103	72	203
053	121	65	229
054	184	79	250

TABLE 27 cont.

INDIVIDUAL SUBJECT SCORES BY THE LAS; THE CEMD; AND LEISURE PARTICIPATION

Subject ID	LAS	CEMD	LEISURE PART.
055	168	72	240
056	228	79	219
057	94	65	207
058	161	93	242
059	243	86	312
060	523	114	449
061	209	51	254
062	190	86	223
063	160	107	228
064	207	72	277
065	274	79	277
066	226	58	260
067	238	86	243
069	269	93	311
070	220	79	281
071	209	79	298
072	238	79	273
073	175	100	222
074	172	65	257
075	176	107	264
076	99	93	200
078	118	86	188
079	70	65	145
080	223	79	234
081	99	93	199
082	179	79	260
083	225	93	258
084	243	93	246
085	261	51	294
086	245	72	283
087	207	93	225
088	162	58	237
089	353	65	344
090	129	93	239
091	234	93	272
092	102	79	176
093	225	107	251
094	281	72	249
095	222	79	251
096	174	72	206
100	237	58	283
101	158	51	228
102	212	65	259
103	256	93	276
104	284	93	306

TABLE 27 cont.

INDIVIDUAL SUBJECT SCORES BY THE LAS; THE CEMD; AND LEISURE PARTICIPATION

Subject ID	LAS	CEMD	LEISURE PART.
105	152	65	215
107	230	58	285
108	273	100	291
109	162	86	219
110	239	51	236
111	239	86	270
112	226	86	255
113	282	51	295
114	226	100	274
115	230	86	274
116	114	79	210
117	195	44	256
118	256	93	262
125	217	107	248
126	200	100	247
127	178	93	233
128	177	72	237
129	173	72	217
130	212	65	270
131	266	79	275
132	172	114	241
133	152	86	245
134	233	100	247
135	212	121	281
136	245	121	305
137	286	79	297
138	154	107	251
139	211	114	279
140	238	86	261
141	177	93	228
142	227	44	226
143	251	72	299
144	75	79	212
145	210	79	251
147	185	65	223
148	173	100	230
149	304	72	343
150	119	93	237
151	198	93	255
155	161	65	234
156	456	72	452
157	64	86	175
158	207	100	254
159	94	72	173

TABLE 27 cont.

INDIVIDUAL SUBJECT SCORES BY THE LAS; THE CEMD;
AND LEISURE PARTICIPATION

Subject ID	LAS	CEMD	LEISURE PART.
236	122	72	210
237	130	72	239
238	164	93	241
239	271	93	314
240	243	86	247
241	167	79	254
242	186	86	243
250	349	72	323
253	133	79	221
254	221	86	299
255	141	65	227
256	65	79	169
257	65	70	183
258	144	72	247
259	84	72	199
260	207	65	267
265	130	79	209
267	87	58	188
268	128	72	213
270	214	79	268
271	230	72	293
272	86	86	165
273	217	79	270
274	162	86	267
275	175	93	246
276	148	65	240
277	114	79	213
278	165	79	277
279	175	72	265
280	154	65	242
281	90	72	185
282	108	79	185
283	233	107	264
284	157	72	242
285	148	100	269
288	165	65	209
289	185	65	264
290	128	79	232
291	201	51	249
294	257	79	273
297	182	79	248
298	81	44	178
299	128	100	212

TABLE 27 cont.

INDIVIDUAL SUBJECT SCORES BY THE LAS; THE CEMD;
AND LEISURE PARTICIPATION

Subject ID	LAS	CEMD	LEISURE PART.
300	145	65	219
301	128	72	209
302	179	86	207
303	170	58	249
304	136	58	218
305	172	72	252
306	188	100	286
310	105	93	210
311	45	93	173
312	110	79	260
313	265	93	297
314	119	58	223
315	263	65	296
325	162	58	272
326	193	114	251
327	318	72	293
328	181	93	247
329	193	79	261
330	226	72	255
332	204	79	236
333	290	100	310
334	145	107	235
335	140	79	261
336	209	86	227
337	185	86	230
338	183	93	269
339	258	107	301
340	229	65	295
341	239	86	270
342	279	100	313
343	249	114	258
344	199	93	259
345	165	65	245
346	204	93	266
347	349	100	361
348	184	79	223
349	270	86	279
350	278	100	288
351	254	86	307
352	393	100	333
353	276	107	334
354	251	93	333

TABLE 27 cont.

INDIVIDUAL SUBJECT SCORES BY THE LAS; THE CEMD; AND LEISURE PARTICIPATION

Subject ID	LAS	CEMD	LEISURE PART.
355	268	58	295
356	215	79	299
357	180	100	279
358	200	79	248
359	164	65	235
360	183	79	219
361	313	114	321
362	246	100	284
375	113	86	205
376	166	72	225
377	278	93	253
378	106	72	191
379	125	51	222
380	172	93	267
381	171	79	230
382	294	93	315
383	91	65	223
384	214	86	284
400	73	65	205
401	213	79	269
402	273	79	255
403	101	65	202
404	142	65	222
405	132	65	243
406	62	100	194
407	65	65	192
408	223	107	270
409	135	79	201
410	222	79	268
N=	288	288	288
Mean =	191.11	81.76	249.93

(Hand Method)

APPENDIX F

EDUCATOR'S AND LEARNER'S JUDGMENT ABOUT ACTIVITIES

TABLE 28

JUDGMENTS OF SIXTEEN ADULT EDUCATORS ON DEGREE TO WHICH NINETY-NINE ACTIVITY ITEMS ARE COMMONLY ENGAGED IN FOR EDUCATIONAL PURPOSES BY PARTICIPANTS

Activity Items	Activity Almost Always Undertaken for Educational Purposes (Category 1)	Activity Frequently Undertaken for Educational Purposes (Category 2)	Activity Seldom or Never Undertaken for Educational Purposes (Category 3)	Activity Clearly Does Not Belong In Any of the Other Categories (Category 4)
Took part in an athletic sport, such as golf, swimming, baseball, bowling, or skiing.	-	3	13	-
Tried out new recipes or experimented with the unusual in food or drink. . .	3	11	2	-
Worked on my car or a friend's car . .	-	5	8	3
Thought about abstruse questions, such as, what is truth? beauty? or the place of man in the scheme of things? . . .	12	4	-	-
Went to see the current popular movies	-	2	14	-
Went to see art films.	3	12	1	-
Operated a "ham" radio	1	9	5	1
Built up a special collection of something, such as stamps, antiques, books, or pictures	1	12	3	-
Played a musical instrument as a hobby	4	8	4	-
Helped other people with their personal problems.	-	5	7	4
Visited or cared for a person who was elderly or sick	-	-	12	4
Went to a public lecture.	6	10	-	-

Did some kind of nature study, such as birdwatching or going for hikes in the country.	-	14	2	-
Went to the races	-	-	14	2
Expressed my opinion on a controversial topic or issue at a meeting. . .	-	6	8	2
Watched a general TV program, such as variety shows, dramas, westerns, or comedies.	-	1	15	-
Watched an informational program on TV, such as panel discussions, quiz shows, or travelogues.	5	10	1	-
Listened to general radio programs, such as popular music, variety shows, or dramas	-	2	13	1
Listened to informational programs on radio, such as personal interviews, consumer tips, or discussion shows	8	7	1	-
Watched or listened to news on TV or radio	6	10	-	-
Listened to classical music on radio or TV	1	13	2	-
Listened to folk music or jazz on radio or TV.	-	-	12	-
Followed a course or class offered on TV or radio	12	4	-	-
Registered for a class on TV or radio.	15	1	-	-
Went dancing	-	1	13	2
Went to an "Auto Show," "Better Homes Show," or other type of display. . . .	1	12	3	-
Went on a picnic or some other similar social or recreational activity. . . .	-	-	14	2
Played games, such as chess, checkers, poker, or bridge	-	6	9	1
Attended an athletic or sporting event as a spectator	-	-	15	1

TABLE 28 --Continued

Activity Items	Activity Almost Always Undertaken for Educational Purposes (Category 1)	Activity Frequently Undertaken for Educational Purposes (Category 2)	Activity Seldom or Never Undertaken for Educational Purposes (Category 3)	Activity Clearly Does Not Belong In Any of the Other Categories (Category 4)
Chatted or visited with friends, relatives or neighbors.	-	2	12	2
Wrote a letter to the editor or some other such person or official	-	5	9	2
Took a pleasure trip overnight or longer	-	3	11	2
Played word games of some sort, such as crossword puzzles or anagrams	-	10	5	1
Taught something to a friend or a member of the family.	3	4	8	1
Browsed in a book store or library. . .	1	13	2	-
Read a number of books on a subject I wanted to learn more about	16	-	-	-
Read books dealing with my trade, business, or profession	14	2	-	-
Read non-fiction books on general subjects, such as psychology, art, economics, history, biography, or science.	13	3	-	-
Read practical non-fiction books or articles on subjects, such as gardening, raising children, improving my home . .	13	3	2	2
Read religious or other inspirational books or articles	2	14	-	-
Read a comic book	-	-	16	-
Read poetry	3	13	-	-

Read popular fiction, such as westerns, mysteries, adventure, or science fiction.	-	1	14	1
Read classic fiction, such as the Great Books or other great works. .	9	6	-	1
Read current events periodicals, such as "Time," "Newsweek," or "U.S. News and World Report".	9	7	-	-
Read a newspaper.	2	14	-	-
Read one or more magazines dealing with a special interest or hobby of mine .	11	5	-	-
Read technical, professional, trade, or farm magazines	15	1	-	-
Read exciting magazines, such as "Silver Screen," "True Detective," "Modern Romance," or "Confidential".	1	-	13	1

(This item was inadvertently left out of one judgment.)

Read popular general magazines such as "Look," "Life," "Saturday Evening Post," or "Reader's Digest".	1	13	2	-
Read literary or cultural magazines of opinion such as "The Saturday Review," "Fortune," "Harper's" or "Atlantic Monthly".	14	2	-	-
Read journals of opinion, such as "Encounter," "Nation," or "Yale Review"	13	3	-	-
Consulted an encyclopedia, gazetteer, world almanac, or other reference source	14	2	-	-
Took part in an amateur dramatic or musical production.	1	9	6	-
Engaged in photography as a hobby . .	1	11	4	6
Made clothes for myself or someone else	-	4	9	3
Attended a symphony, recital, opera, ballet, or similar activity	3	11	2	-
Attended a large meeting or convention	2	12	2	-

TABLE 28 —Continued

Activity Items	Activity Almost Always Undertaken for Educational Purposes (Category 1)	Activity Frequently Undertaken for Educational Purposes (Category 2)	Activity Seldom or Never Undertaken for Educational Purposes (Category 3)	Activity Clearly Does Not Belong In Any of the Other Categories (Category 4)
Went to a fair.	-	10	5	1
Worked on a scrapbook	-	9	6	1
Wrote letters to friends and relatives.	-	1	13	2
Did some sort of art or craft-work, such as painting, weaving, knitting, or modeling.	2	9	4	1
Played with children or grandchildren .	-	1	13	2
Froze or otherwise preserved food of some sort	-	1	13	2
Went to a tavern, bar, or nightclub . .	-	1	13	2
Took private lessons.	16	-	-	-
Took a course offered by my employer. .	6	9	-	1
Took a correspondence or home study course	16	-	-	-
Did redecorating, painting, landscaping, or repair work about the home	-	1	14	1
Went to a conference, an institute, or a workshop.	14	2	-	-
Went to a settlement house or a neighborhood center	1	12	3	-
Went for a trip especially to see some historical or other important landmark	6	10	-	-
Listened to current hit records	-	2	14	-
Listened to a record of classical music on a record player.	-	15	1	-

Listened to teaching records, such as those which teach a foreign language	16	-	-	-
Went to meetings of a group organized to discuss or learn about things.	14	2	-	-
Went to meetings of some fraternal, social, or recreational group.	-	8	8	-
Went to meetings of some business, professional, civic, political, or labor group.	1	13	1	-
	(This item was inadvertently left out of one judgment.)			
Went to meetings of some nationality organization	-	9	6	1
Went to a meeting of a religious group .	1	11	3	1
Went to church services.	1	10	4	1
Served as a leader or an officer of some adult group.	2	9	5	-
Served as a leader or adviser of some youth group.	2	10	4	-
Helped organize a group, club or organization	-	10	6	-
Made a speech before a group	-	9	6	1
Devoted time as a volunteer in some political or civic cause.	-	9	7	-
Went to an amusement park or carnival. .	-	1	13	2
Visited an art exhibition, art gallery, or museum.	2	14	-	-
Took a course given by some community organization like the "Y," Red Cross, or library.	12	4	-	-
Helped coach or manage an athletic team, such as the Little League or a bowling team	-	3	11	2
Did some sort of composing or writing. .	6	6	3	1
Took a course at a university, a college, or a public school	15	1	-	-

TABLE 28 --Continued

Activity Items	Activity Almost Always Undertaken for Educational Purposes (Category 1)	Activity Frequently Undertaken for Educational Purposes (Category 2)	Activity Seldom or Never Undertaken for Educational Purposes (Category 3)	Activity Clearly Does Not Belong In Any of the Other Categories (Category 4)
Learned how to carry out a do-it-yourself project	8	7	1	-
Sang with an amateur or semi-professional group	1	9	6	-
Served as a volunteer in some political or civic cause	1	9	6	-
Attended the theater to see plays and musical shows	-	10	6	-
Relaxed by sitting around, doing nothing in particular	-	1	11	4
Went shopping for myself or other people	-	1	12	3

TABLE 29

FREQUENCY DISTRIBUTION OF RESPONSES TO OPINION SURVEY

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
1	Chatted or visited with friends, relatives, or neighbors	25	117	111	35
2	Read a newspaper	115	143	26	4
3	Relaxed by sitting around, doing nothing in particular	8	23	115	142
4	Watched news on TV or listened to news on the radio	98	151	35	4
5	Watched a general TV program, such as a variety show, drama, western, or comedy	11	56	164	57
6	Watched an informational program on TV, such as a panel discussion, quiz show, or travelogue	28	112	133	15
7	Listened to a current hit record on a record player	6	40	136	106
8	Listened to a record of classical music on a record player	8	52	159	69

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
9	Listened to folk music or jazz on radio or TV	6	42	166	74
10	Listened to classical music on radio or TV	6	49	169	64
11	Listened to an informational program on radio, such as a personal interview, consumer tips, or a discussion show	37	123	116	12
12	Listened to a general radio program, such as popular music, a variety show, or drama	8	62	157	61
15	Went to a church service	58	93	79	58
16	Went to a tavern, bar, or night club	5	8	115	160
17	Went to a meeting of some fraternal, social or recreational group	10	79	145	54
18	Went to a meeting of some business, professional, civic, political, or labor group	32	118	114	24

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
19	Went to a meeting of a religious group	27	90	114	57
20	Went to a settlement house or a neighborhood center	4	18	164	102
21	Read one or more magazines dealing with a special interest or hobby	48	151	77	12
22	Read a technical, professional, trade, or farm magazine	83	124	68	13
23	Read a literary or cultural magazine, such as "The Saturday Review," "Harper's," or "Atlantic Monthly"	37	79	138	34
24	Read a journal of opinion, such as "Encounter," "Nation," or "Yale Review"	28	52	159	49
25	Read a popular general magazine, such as "Look," "Life," or "Reader's Digest"	46	160	77	5

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
26	Read an exciting magazine, such as "Silver Screen," "True Detective," "Modern Romance," or "Confidential"	1	8	133	146
27	Read a comic book	2	11	128	147
28	Read a current events periodical, such as "Time," "Newsweek," or "U.S. News and World Report"	76	135	62	15
29	Played a word game of some sort, such as a crossword puzzle or anagram	17	73	158	40
30	Played a game, such as chess, checkers, poker, or bridge	5	48	167	68
31	Took a private lesson	17	22	160	89
32	Sang with an amateur or semi-professional group	6	14	146	122
33	Served as a volunteer in some worthwhile cause	9	69	139	71

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
34	Engaged in photography as a hobby	7	25	154	102
35	Operated a "ham" radio	2	6	154	126
38	Took a pleasure trip overnight or longer	12	106	124	46
39	Worked on a scrapbook	5	32	164	87
40	Built up a special collection of something, such as stamps, antiques, books, or pictures	13	65	154	56
41	Learned how to carry out a do-it-yourself project	23	100	127	38
42	Read a number of books on a subject I wanted to learn more about	73	148	52	15
43	Read a classic fiction book, such as one of The Great Books or other great works	24	88	143	33

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
44	Read poetry	16	76	162	34
45	Read a popular fiction book, such as a western, mystery, adventure, or science fiction	12	55	163	58
46	Read a practical non-fiction book or article on a subject, such as gardening, raising children, or improving my home	39	133	91	25
47	Read a non-fiction book on a general subject, such as psychology, art, economics, history, biography, or science	67	117	83	21
48	Read a religious or other inspirational book or article	37	109	108	34
49	Read a book dealing with my trade, business or profession	116	100	57	15
50	Went dancing	4	15	131	138
51	Went to see a current popular movie	7	66	136	79

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
52	Went to see an art film	9	24	169	86
53	Went to a public lecture	28	86	137	37
54	Went to a meeting of a nationality or ethnic organization	8	23	171	86
55	Went to a conference, an institute, or a workshop	76	112	79	21
56	Went for a trip especially to see some historical or other important landmark	47	128	95	18
57	Went to a meeting of a group organized to discuss or learn about things	52	113	97	26
58	Did some sort of art or craft-work, such as painting, woodworking, weaving, knitting, or modeling	26	84	131	47
59	Visited an art exhibition, art gallery, or museum	38	88	126	36

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES			
		Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
60	Attended a symphony, recital, opera, ballet, or similar activity	18	39	181	50
61	Attended the theater to see a play or a musical show	10	57	161	60
62	Attended an athletic or sporting event as a spectator	17	62	145	64
63	Took part in a non-competitive sport, such as fishing, hunting, boating, or skiing	12	46	155	75
64	Took part in a competitive sport, such as golf, tennis, baseball, basketball, or bowling	12	48	151	77
65	Devoted time as a volunteer to some political or civic cause	8	66	156	58
66	Made an article of clothing for myself or someone else	19	48	108	113

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
67	Followed a course or class offered on TV or radio	14	35	162	77
68	Made a speech before a group	31	107	115	35
69	Did some kind of nature study, such as birdwatching or going for a hike in the country	12	69	150	57
70	Helped coach or manage an athletic team, such as the Little League or a bowling team	12	25	155	96
1	Went to a fair	7	42	162	77
2	Went to an amusement park or carnival	1	27	163	97
3	Went to an "Auto Show," "Better Homes Show," or other type of display	11	51	168	58
4	Went to a race, such as a horse race, automobile race, or dog race	3	13	164	108

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
5	Helped organize a group, club, or organization	13	63	155	57
6	Registered for a class on TV or radio	10	15	170	93
7	Took a course at a university, a college, or a public school	137	72	54	25
8	Took a correspondence or home study course	32	16	160	80
9	Took a course given by some community organization like the "Y", Red Cross, or library	23	37	154	74
10	Took a course offered by my employer	60	49	118	61
11	Took part in an amateur dramatic or musical production	4	119	72	93
12	Attended a large meeting or convention	39	110	104	35

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
15	Served as a leader or an officer of some adult group	25	101	127	35
16	Served as a leader or advisor of some youth group	27	80	145	36
17	Worked on my car or a friend's car	7	40	146	95
18	Taught something to a friend or a member of the family	33	124	99	32
19	Visited or cared for a person who was elderly or sick	6	60	138	84
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	116	128	37	7
21	Listened to a teaching record, such as one which teaches a foreign language	32	21	165	70
22	Did redecorating, painting, landscaping, or repair work around the house	18	81	121	68

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
23	Did some sort of composing or writing	22	77	139	50
24	Expressed my opinion on a controversial topic or issue at a meeting	18	114	118	38
25	Went shopping for myself or other people	23	61	117	87
26	Went on a picnic or some other similar social or recreational activity	6	46	142	94
27	Played with children or grandchildren	20	78	101	89
28	Froze or otherwise preserved food of some sort	11	40	121	116
29	Wrote a letter to friends or relatives	15	52	128	93
30	Wrote a letter to the editor or some other such person or official	9	40	161	78
31	Helped other people with their personal problems	14	94	119	61

TABLE 29 (cont.)

Tab. Col.	Activity Items	CATEGORIES Activity Almost Always Undertaken By Me for Educational Purposes	Activity Frequently Undertaken By Me for Educational Purposes	Activity Seldom or Never Undertaken By Me for Educational Purposes	Activity Does Not Clearly Belong In Any of the Other Categories
32	Tried out a new recipe or experimented with the unusual in food or drink	27	84	106	71
33	Played a musical instrument as a hobby	11	25	151	101
34	Thought about an abstruse question such as, what is truth? beauty? or the place of man in the scheme of things?	30	110	115	33
35	Browsed in a bookstore or library	43	150	78	17

APPENDIX G

SCORING OF INSTRUMENTS

SCORING THE LEISURE ACTIVITY SURVEY FOR A LEISURE ACTIVITY PARTICIPATION INDEX

An individual's Leisure Activity Participation Index was determined by a sum of weights assigned to the LAS time interval scale to which the respondent replied. Thus, the LAS time interval scale was assigned the following weights:

First interval = 1 (not at all)
Second interval = 2
Third interval = 3
Forth interval = 4
Fifth interval = 5
Sixth interval = 6

An individual circling the third time interval was given a score of three; the fourth provided a score of 4 and so on. A time interval score was provided for each of the 99 items. The individual's Leisure Activity Participation Index was then determined by a sum of the 99 item scores.

The lowest possible score is 99 which indicates no participation and the highest is 594 which indicates the highest degree of participation covered by the scale.

LITCHFIELD'S EXAMPLE FOR SCORING THE LEISURE ACTIVITY SURVEY[1]

Scoring the Leisure Activity Survey for Extent of Educational Participation

An individual's extent of participation score was determined by multiplying each of the forty-six educational activities in which the respondent took part (possibilities are 0 to 46), by the weight assigned to that item indicating degree of educativeness (possibilities are 4 high to 1 low), and by multiplying that figure by the weight assigned to the time interval circled by the respondent on the scale for each group of activities (possibilities are zero for no participation to five for greatest participation). To illustrate the scoring procedure for a single item, suppose the respondent had circled item 42 in the following manner:

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[1] Litchfield, "Nature and Pattern", p. 38.

Tabulating Column	Activity	Not at all	Once or Twice a year	About every 4 to 6 months	About every 2 to 3 months	Once a month	More often than once a month
42	Read a number of books on a subject I wanted to learn more about.	a	b	c	d	[✓ e]	f

Item 42 is an educational item. It has a weight for degree of judged educativeness of four and the scaled time interval "once a month" has a value of four. Therefore: 1 x 4 x 4 = 16. Sixteen is the score for that activity.

The forty-six individual item scores are then added for the individual's total score on the Leisure Activity Survey. The highest total score possible is 615, i.e.,

19 x 4 x 5 = 380
5 x 3 x 5 = 75
10 x 2 x 5 = 100
12 x 1 x 5 = 60
Total = 615

The lowest total score possible is zero, i.e.,

0 x 4 x 0 = 0
0 x 3 x 0 = 0
0 x 2 x 0 = 0
0 x 1 x 0 = 0
Total = 0

SCORING THE CEMD (CONCEPT OF EDUCATION MEASURING DEVICE)

In determining the respondent's CEMD score, item values of eight and one were used in order to obtain a sufficient wide range of numerical values to clearly categorize differing concepts of education. According to Metcalfe, "A lower value than eight for broad concepts would not have allowed for necessary interpretations, due to the small numerical difference which would have resulted between mean scores for broad and narrow concepts of education."[1]

CEMD item weights used are as follows:[2]

TAB. NO.		WEIGHT
1.	a.	8
	b.	1
	c.	8
	d.	1
2.	a.	8
	b.	1
	c.	8
	d.	1
3.	a.	1
	b.	1
	c.	8
	d.	8
4.	a.	1
	b.	8
	c.	8
	d.	1
5.	a.	1
	b.	1
	c.	8
	d.	8

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[1] Metcalfe, p. 59 (Footnote)

[2] Broad and narrow items determined from Metcalfe study, a telephone interview with Dr. Metcalfe and a letter from Dr. Metcalfe.

TAB. NO.		WEIGHT
6.	a.	1
	b.	8
	c.	1
	d.	8
7.	a.	1
	b.	8
	c.	1
	d.	8
8.	a.	1
	b.	1
	c.	8
	d.	8

The total CEMD score was determined by the sum of the total weight assigned to item to which the respondent replied. For example:

> The instrument contains 8 tetrods of four statements each. Each tetrod contains two broad and two narrow statements. Consequently, the subjects score for any tetrod was either a "2" when the narrow statements were selected; a "16" when the broad statements were selected or a "9" when one broad and one narrow statement were selected.[1] The sum of the eight tetrod scores provided the subjects total CEMD scores. Thus, a total low score of "16" indicates that the subject selected all statements considered to distinguish a "narrow concept of education". A total high score of 128 indicates that the subject selected all statements considered to distinguish a "broad concept of education."

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[1] For purposes of the factor analysis, the weights used to distinguish respective items were "1" for narrow statements and "2" for broad statements. Under this procedure, the lowest possible score was "16" and the highest was "32".

An Explanation of the Procedure Used to Rank Educational Items for Weighting Purposes in the ALAS Scoring Procedure[1]

Previously, reference was made to the weighting of activity items identified as educational items so as to compensate (in a single total score for all dimensions) for those persons who participate a lot in a few educational activities in comparison to those persons who participate a little in many activities considered less educational. The intent here is to explain the method of determining weightings for items identified by the study population to be educational, and thus compensate for the differences.

The 288 judges (study respondents) each placed the 99 activity items into one of four categories as represented by the Opinion Survey. From the responses, by the majority method, 26 items were determined to be educational items (Table 20). The combined responses to the "almost always" and "frequently" categories were used as one basis by which to assign weights. Thus, the combined responses to TAB item #2 "Read a newspaper" was 258. The responses to TAB item #35 "Browsed in a bookstore or library" was 193. This observation was interpreted to mean that in most cases, the newspaper was read with the intent to learn something, whereas browsing in a bookstore or library was less likely to be for an educational intent. Therefore weights were assigned to respective items based on the distribution of study responses.[2]

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[1] The procedure is slightly different than that described in the Litchfield study, pp. 33-34; pp. 241-244, because of the study "N" and the distribution of responses.

[2] This procedure is slightly different from that reported in the Litchfield study because of the size of "N" and the distribution of responses.

TABLE 30

WEIGHTS ASSIGNED TO 26 ACTIVITIES JUDGED TO BE EDUCATIONAL BY STUDY POPULATION, ACCORDING TO RANK ORDER OF ITEM RESPONSES

TAB NO.	ITEM	WEIGHT
2	Read a newspaper	4
4	Watched news on TV or listened to news on the radio	4
11	Listened to an informational program on radio, such as a personal interview, consumer tips, or a discussion show	2
15	Went to a church service	2
18	Went to a meeting of some business, professional, civic, political, or labor group	2
21	Read one or more magazines dealing with a special interest or hobby	3
22	Read a technical, professional, trade, or farm magazine	2
25	Read a popular general magazine, such as "Look," "Life," or "Reader's Digest"	3
28	Read a current events periodical, such as "Time," "Newsweek," or "U.S. News and World Report"	4
42	Read a number of books on a subject I wanted to learn more about	4
46	Read a practical non-fiction book or article on a subject, such as gardening, raising children, or improving my home	3
47	Read a non-fiction book on a general subject, such as psychology, art, economics, history, biography, or science	3
48	Read a religious or other inspirational book or article	2
49	Read a book dealing with my trade, business or profession	4
55	Went to a conference, an institute, or a workshop	3
56	Went for a trip especially to see some historical or other important landmark	3
57	Went to a meeting of a group organized to discuss or learn about things	2
7	Took a course at a university, a college, or a public school	4
12	Attended a large meeting or convention	2
18	Taught something to a friend or a member of the family	2
20	Consulted an encyclopedia, gazatteer, world almanac, or other reference source	4
35	Browsed in a bookstore or library	3
Questionable		
1	Chatted or visited with friends, relatives, or neighbors	1
6	Watched an information program on TV, such as a panel discussion, quiz show, or a travelogue	1
68	Made a speech before a group	1
34	Thought about an abstruse question such as what is truth? beauty; or the place of man in the scheme of things?	1

From observation of the items grouped according to assigned weights, the items with the larger weights are rather homogeneous, e.g., "reading", whereas the lesser weighted items could be considered peripheral items - that is sometimes they are engaged in for educational purposes and at other times for different reasons.

APPENDIX H

ADDITIONAL INFORMATION

TABLE 31

Frequency Distribution of Responses to the Leisure Activity Survey by Items and Including Mean Score

TAB ID	Categories 1 "Not At All"	 2 "Less Than"	 3 "More Than"	 4 "3 or 4" Times	 5 "Once"	 6 "More Often"	Mean
1		11	56	56	61	104	4.66
2		4	17	30	175	62	4.83
3	47	63	61	39	55	23	3.23
4	4	7	28	38	119	92	4.99
5	11	31	89	61	50	46	3.85
6	22	108	103	27	18	10	2.79
7	84	97	35	30	16	26	2.57
8	108	113	32	22	6	7	2.09
9	43	77	69	46	23	30	3.06
10	81	101	46	33	15	12	2.43
11	44	125	62	34	14	9	2.57
12	48	62	43	51	47	37	3.34
15	26	50	19	51	109	33	3.94
16	144	73	22	26	12	11	2.05
17	67	79	64	46	27	5	2.67
18	84	78	78	31	11	6	2.39
19	114	69	46	17	32	10	2.36
20	236	32	10	5	5	0	1.30
21	28	39	71	88	29	33	3.52
22	59	42	70	62	26	29	3.14
23	135	63	42	24	15	9	2.13
24	205	44	21	9	5	4	1.53
25	13	31	79	78	60	27	3.77
26	245	30	7	3	2	1	1.23
27	238	38	3	4	3	2	1.27
28	49	51	43	55	66	24	3.38
29	115	91	23	28	12	19	2.26
30	88	93	33	50	18	6	2.43
31	246	13	7	6	12	4	1.40
32	249	14	8	4	8	5	1.34
33	115	84	54	18	9	8	2.11
34	221	32	12	14	3	6	1.48
35	282	2	1	1	1	1	1.05
38	29	113	54	49	27	16	2.93
39	207	47	11	10	6	7	1.59
40	121	69	25	18	31	24	2.45
41	90	112	28	25	19	14	2.35
42	33	65	33	53	42	62	3.67
43	114	96	23	24	19	12	2.21
44	110	75	23	25	28	27	2.53
45	103	58	25	47	28	27	2.72

TABLE 31 (cont.)

TAB ID	1 "Not At All"	2 "Less Than"	3 "More Than"	4 "3 or 4" Times	5 "Once"	6 "More Often"	Mean
	Categories						
46	57	57	37	45	57	35	3.32
47	52	76	30	43	36	51	3.30
48	69	46	45	39	34	55	3.32
49	48	36	16	31	57	100	4.08
50	139	62	27	21	22	17	1.74
51	61	58	44	47	42	36	3.21
52	234	35	5	3	5	6	1.36
53	112	89	42	26	14	5	2.15
54	242	24	10	8	3	1	2.90
55	58	107	49	49	11	14	2.61
56	46	167	36	27	6	6	2.30
57	85	72	33	33	36	29	2.83
58	93	63	29	32	20	51	4.22
59	98	126	36	17	8	3	1.69
60	156	87	20	18	5	2	1.73
61	130	107	24	20	6	1	1.85
62	51	63	37	43	27	67	3.46
63	103	45	23	31	37	49	3.00
64	124	29	19	21	33	62	2.98
65	149	70	22	12	21	14	2.05
66	162	22	17	28	28	31	2.41
67	253	15	0	5	3	12	1.35
68	74	83	33	42	21	35	2.85
69	123	77	19	28	15	26	2.35
70	233	10	7	3	1	34	1.71
1	146	99	25	6	2	10	1.78
2	111	95	51	14	7	10	1.75
3	159	77	36	10	3	3	1.71
4	216	35	24	5	2	6	1.47
5	191	62	26	3	4	2	1.52
6	280	5	2	1	-	-	1.04
7	78	52	66	28	11	53	3.00
8	262	14	7	1	-	4	1.18
9	247	29	8	2	-	2	1.21
10	201	53	21	4	3	6	1.52
11	260	18	6	1	1	2	1.16
12	87	96	77	17	3	8	2.22
15	96	24	73	41	18	36	2.89
16	111	33	57	43	9	35	2.69
17	147	44	53	27	10	7	2.06
18	27	27	114	64	27	29	3.96
19	63	51	105	43	14	12	2.76
20	16	14	61	92	44	61	4.10
21	206	35	33	5	5	4	1.60
22	28	19	83	92	32	34	3.64
23	140	39	53	32	13	11	2.21
24	61	28	111	55	20	13	2.94
25	-	13	69	77	46	83	4.40

TABLE 31 (cont.)

	Categories						
TAB ID	1 "Not At All"	2 "Less Than"	3 "More Than"	4 "3 or 4" Times	5 "Once"	6 "More Often"	Mean
26	22	28	130	75	17	16	3.29
27	39	20	69	55	38	67	3.81
28	120	38	42	34	28	26	2.62
29	27	64	79	49	30	39	3.38
30	171	60	45	9	2	1	1.66
31	25	58	107	52	29	17	3.10
32	55	40	91	51	31	20	2.89
33	203	25	27	8	9	16	1.06
34	41	60	82	61	17	27	2.98
35	19	30	97	82	24	36	3.59

TABLE

FREQUENCY DISTRIBUTION OF RESPONSES TO THE CEMD[1]

TAB. ID.	Responses	No Responses	Total
1	159	129	288
2	125	163	288
3	79	209	288
4	213	75	288
5	219	69	288
6	156	132	288
7	149	139	288
8	76	212	288
9	86	202	288
10	149	139	288
11	160	128	288
12	181	107	288
13	175	113	288
14	140	148	288
15	252	36	288
16	9	279	288
17	233	55	288
18	206	82	288
19	70	218	288
20	67	221	288
21	25	263	288
22	258	30	288
23	99	189	288
24	194	94	288
25	86	202	288
26	215	73	288
27	149	139	288
28	126	162	288
29	73	215	288
30	58	230	288
31	208	80	288
32	237	51	288
Total	4632	4584	

[1] Concept of Educational Measuring Device (Metcalfe's instrument).

TABLE 33

A FREQUENCY DISTRIBUTION OF PARTICIPATION SCORES BY SELECTED INTERVALS FOR 1,045 ADULT LEARNERS FROM THE BURGESS STUDY AS DETERMINED BY THE ALAS METHOD

Score Intervals	Number
0-19	2
20-39	2
40-59	6
60-79	25
80-99	65
100-119	97
120-139	157
140-159	151
160-179	160
180-199	145
200-219	119
220-239	55
240-259	37
260-279	13
280-299	10
300-319	1
Total	1,045

TABLE 34

A FREQUENCY DISTRIBUTION OF PARTICIPATION SCORES BY SELECTED INTERVALS FOR 1,045 ADULT LEARNERS FROM THE BURGESS STUDY AS DETERMINED BY THE LAS METHOD

Score Intervals	Number
0-19	2
20-39	4
40-59	13
60-79	36
80-99	54
100-119	92
120-139	95
140-159	119
160-179	119
180-199	114
200-219	87
220-239	78
240-259	78
260-279	51
280-299	43
300-319	15
320-339	20
340-359	10
360-379	6
380-399	2
400-419	6
420-439	1
Total	1045

TABLE 35

A NUMERICAL DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO LEISURE ACTIVITY SURVEY SCORES (LITCHFIELD METHOD)

Maximum Score Range 0-615
Mean Score 191

Score	Number
40- 59	3
60- 79	9
80- 99	12
100-119	18
120-139	26
140-159	22
160-179	39
180-199	29
200-219	37
220-239	35
240-259	19
260-279	20
280-299	7
300-319	3
320-339	1
340-359	3
360-379	2
380-399	1
--- ---	-
440-459	1
--- ---	-
520-539	1
Total	288

TABLE 36

DISTRIBUTION OF LAS SCORES BY MACHINE METHOD WITH WEIGHTS REMOVED

Mean Score 87

SCORES	NUMBERS
40-49	0
50-59	13
60-69	25
70-79	45
80-89	72
90-99	64
100-109	51
110-119	10
120-129	7
130-139	0
140-149	0
150-159	1
160-169	0
Total	288

TABLE 37

DISTRIBUTION OF RESPONDENTS BY TOTAL ALAS SCORE

(Machine Method)
Possible Range (Low) 69 - (High) 414
Mean Score 243

Score	Respondents
120-139	1
140-159	10
160-179	15
180-199	26
200-219	38
220-239	46
240-259	43
260-279	42
280-299	39
300-319	16
320-339	6
340-359	5
360-379	
380-399	
400-419	1
420-439	
440-459	
Total	288

TABLE 38

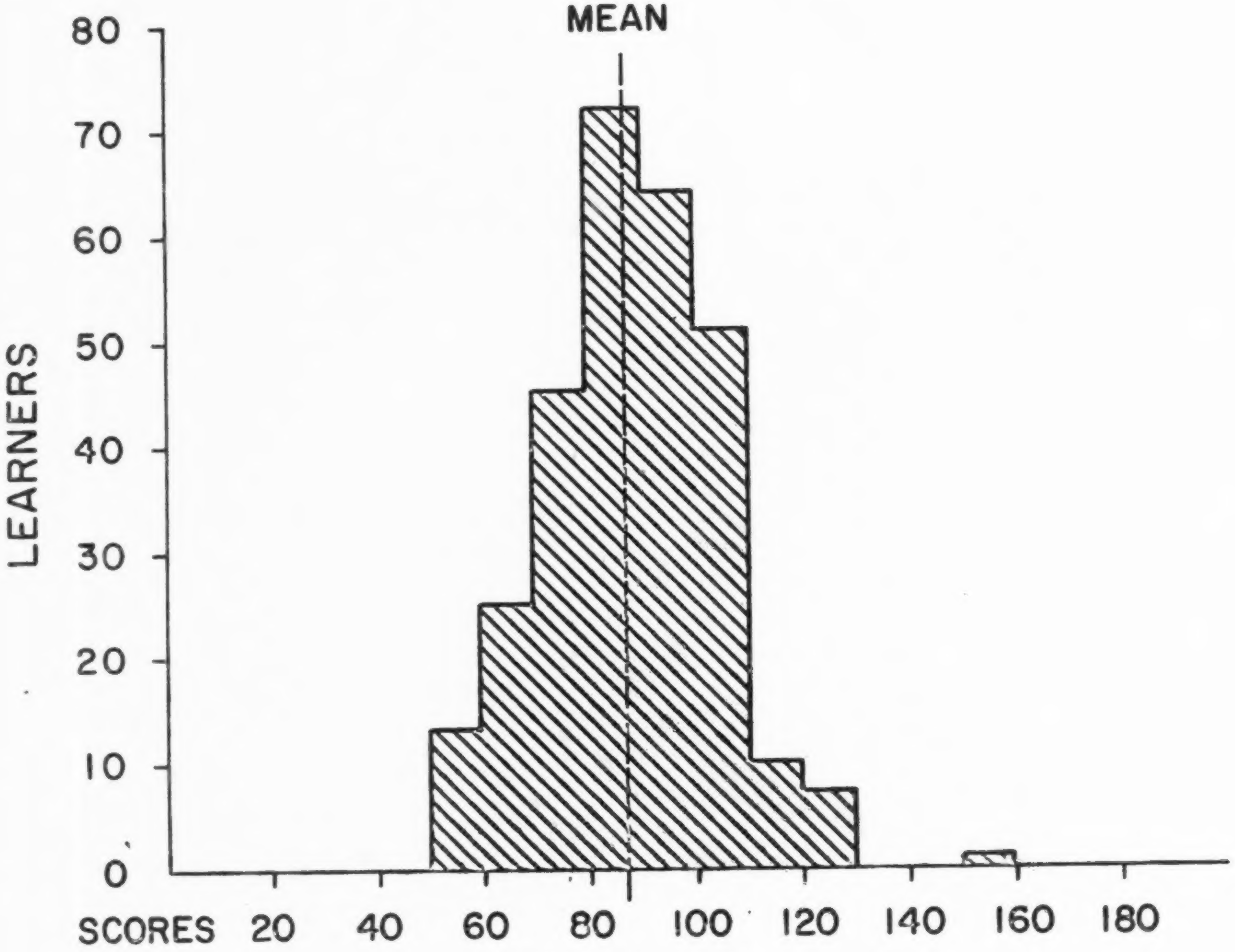
A NUMERICAL DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO CEMD SCORES

Scores	Number
121	2
114	7
107	17
100	24
93	46
86	35
79	58
72	41
65	37
58	10
51	8
44	3
37	-
Total	288

Mean Score = 81.97
Broad Mean = 95.78
Narrow Mean = 70.44
Broad "N" = 131
Narrow "N" = 157

CHART 6

A HISTOGRAM DISTRIBUTION OF RESPONDENTS BY LAS SCORES MACHINE METHOD WITH WEIGHTS REMOVED



MEAN = 87

RANGE MINIMUM 46 - MAXIMUM 276

NOTE

Score determined by time-interval weights assigned to the 46 educational items as defined by Litchfield. Weights on educativeness of the item was not considered.

APPENDIX I

ANALYSIS OF CONCOMITANT VARIABLES

TABLE 39

REGRESSION ANALYSIS BETWEEN CONCOMITANT VARIABLES AND LAS SCORES

Dependent Variables	Multiple R	Multiple R^2	F	P
LAS Scores	.362	.131	8.49	$P < .01$
df = 5,282				

Independent Variables	Simple Correlation	Partial R	F	P
Level of education	.322	.247	18.38	$P < .01$
Age	.043	.147	6.27	$P < .01$
Rec. of Part.	-.217	-.098	2.74	N/S
Sex	-.183	-.042	.50	N/S
Income Level	-.085	.085	.25	N/S
df = 1,282				

TABLE 40

REGRESSION ANALYSIS BETWEEN CONCOMITANT VARIABLES AND CEMD SCORES

Dependent Variables	Multiple R	Multiple R^2	F	P
CEMD Scores	.242	.059	3.52	P .01
df = 5,282				

Independent Variables	Simple Correlation	Partial R	F	P
Level of education	.209	.173	8.71	$P < .01$
Rec. of Part.	-.169	-.086	2.11	N/S
Income Level	-.023	-.084	2.02	N/S*
Age	.043	.037	.39	N/S
Sex	-.079	.030	.25	N/S
df = 1,282				

* Approaching Significance

TABLE 41

REGRESSION ANALYSIS BETWEEN CONCOMITANT VARIABLES AND LEISURE PARTICIPATION SCORES

Dependent Variables	Multiple R	Multiple R^2	F	P
Leisure Participation Scores	.244	.059	3.56	$P < .01$
df = 5,282				

Independent Variables	Simple Correlation	Partial R	F	P
Level of education	.241	.199	11.64	$P < .01$
Age	.036	.025	.17	N/S
Income Level	.051	.021	.13	N/S
Rec. of Part.	.124	.019	.10	N/S
Sex	.102	.002	.00	N/S
df = 1,282				

TABLE 42

REGRESSION ANALYSIS BETWEEN CONCOMITANT VARIABLES AND ALTERNATE LAS SCORES

Dependent Variables	Multiple R	Multiple R^2	F	P
Alternate LAS Scores	.452	.205	14.51	$P < .01$
df = 5,282				

Independent Variables	Simple Correlation	Partial R	F	P
Level of education	.414	.296	26.98	$P < .01$
Age	.002	.129	4.80	$P < .01$
Rec. of Part.	.290	.126	4.58	$P < .01$
Sex	.267	.090	2.29	$P < .05$
Income Level	.129	.001	.00	N/S
df = 1,282				

TABLE 43

REGRESSION ANALYSIS BETWEEN CONCOMITANT VARIABLES AND LAS - WEIGHT FACTOR

Dependent Variables	Multiple T	Multiple R^2	F	P
LAS - Weight Factor	.357	.127	8.24	$P < .01$

df = 5,282

Independent Variables	Simple Correlation	Partial R	F	P
Level of education	.316	.242	17.50	$P < .01$
Age	.044	.147	6.27	$P < .01$
Rec. of Part.	-.219	-.104	3.08	$P < .01$
Sex	-.177	-.037	.39	N/S
Income Level	.082	-.031	.26	N/S

df = 1,282

At each step, a deletion is attempted first. If more than one variable currently in the model could be deleted, then the variable with the least F-ratio is deleted. If no variable can be deleted from the model, then an inclusion is attempted. If more than one variable presently not in the model could be included, then the one with the largest F-ratio is included. If no variable can be deleted or included, the stepping process is terminated. When a pivot is less than .00001 that variable is dropped from the model.

Only the estimates and tests resulting from the final step of the regression computations are printed.

The simplest way of using the REGRES subroutine is to leave FIN and F0UT blank [the method used]. In this case, it will include all the designated independent variables except those which have a close to perfect multiple correlation with other independent variables and those which have a close to zero correlation with the dependent variable when all other independent variables are controlled.[1]

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[1] MESA 85 Program Software, described in write-up for UCSL J10 of 10/01/65, p. 8.

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